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PEDIATRICS

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New York

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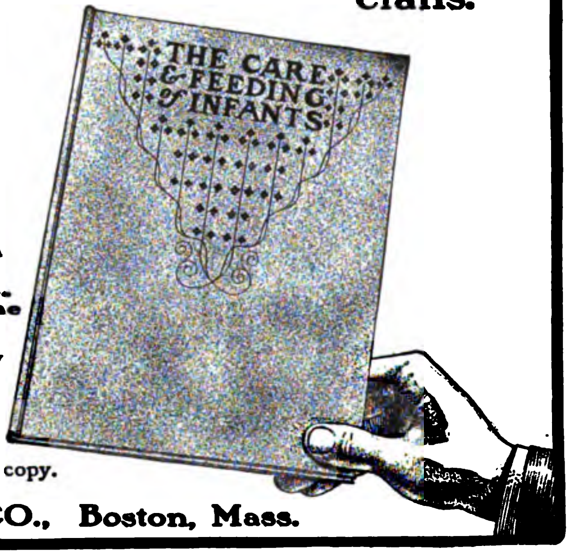
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PEDIATRICS

Vol. XVII APRIL, 1905 No. 4

ORIGINAL ARTICLES

THE DIAGNOSIS OF PNEUMONIA IN CHILDREN

By W. M. MacDonald, M.D.,
LAKE GENEVA, WIS.

The object of this paper is to call attention to the necessity for great watchfulness during the course of the zymotic diseases of childhood, in order to detect at the earliest possible moment evidences of broncho-pneumonia; and also to point out some of the difficulties occasionally experienced in determining the diagnosis of lobar pneumonia in children.

It will not be necessary to review the classical symptoms of either disease. Broncho-pneumonia, while frequently occurring as a primary disease, is usually secondary to bronchitis and diseases in which bronchitis is a symptom, as whooping cough, measles, influenza, and other acute infections. The symptoms indicating the invasion are usually not marked, being those of an ordinary bronchitis. The child is apt to be less than three years of age. In a young child convalescent from or during any of these diseases, the appearance of any symptom, no matter how slight, fever, increased respiratory movement and pulse rate, indicating a retrograde movement, requires a most painstaking physical examination, although it must be admitted that, even when the disease is well developed, the physical signs are not always characteristic.

The difficulty in making a satisfactory examination of children is often very great. It is well, therefore, to make it a rule in all cases to have the patient stripped, and an effort made by the nurse to distract its attention until the chest is completely gone over. In some cases it is easy to entirely overlook sounds that are distinctly characteristic, if every part of the chest is not noted.

---

* Read at the Central Wisconsin Medical Society, Beloit, April 26, 1904.

At the rear and lower portion of the chest are most apt to be found the characteristic subcrepitant râles.

Pepper observed that "the sounds of broncho-pneumonia are in no sense characteristic; but when to the râles of bronchitis there are superadded fine subcrepitant râles, with harsh or blowing breathing, and areas of even indistinct impairment of resonance at the postero-inferior portions of the lungs, the evidence, so far as physical examination is concerned, is fairly clear." Percussion will occasionally show points of dullness, and often it will not.

Antedating the appearance of fever and increased respiration, for a few days, there may have been constipation and green stools, calling attention to the digestive tract rather than to the respiratory.

If a cough were always present with the accession of fever, little difficulty in diagnosis would be experienced; but it not infrequently happens that little or no cough is present at the beginning of these cases.

There is one early symptom quite constantly present in acute pulmonary affections which is immediately suggestive, that is an increase in the frequency of respiration. With this will usually be found some fever. We have all observed cases in which no symptoms were present for several days, beyond increased respiration and a little fever, which then developed the characteristic symptoms. This is due to the bronchitis so often preceding the actual development. We have also seen young children convalescent from whooping-cough suddenly develop a very high temperature, increased respiration, and green bowel movements, with absolutely no cough or characteristic chest sounds for several days. The occasional absence of cough is very misleading, but the increased respiratory movement is very significant.

There is a form of broncho-pneumonia occurring in new-born infants, which, from its insidious onset and rapidly fatal termination, is apt to leave the physician in doubt as to what ailed his patient. The child may have manifested evidences of a slight cold, when suddenly it is seized with convulsions which may be frequently repeated, accompanied by diarrhea and enteritis. This may occur without much fever or cough; but, as a rule, the respirations are decidedly increased, and it is unusual that a trifle of cyanosis is not present.

It is well to observe, in passing, that cases of broncho-pneumonia making an unusually slow convalescence may have tuberculosis as a primary cause, affecting the bronchi or lungs, since intercurrent attacks of broncho-pneumonia are not infrequent in pulmonary tuberculosis of children.

The evening temperature of broncho-pneumonia is usually higher than the morning temperature. I recall a case, occurring a few years ago, in which there appeared considerable excitement and intestinal disturbance, with this evening elevations of temperature, which confused a noted diagnostician for five days, owing to the absence of characteristic lung sounds; the case presenting an excellent counterfeit of typhoid fever.

To-day the early signs of pneumonia rarely need be confused with typhoid, even in the absence of distinctly objective symptoms, when it is remembered that a blood count in either form of pneumonia almost always shows a decided leucocytosis, while in typhoid there is rarely an increase; in fact, there may be a diminution in the number of leucocytes early in the disease, and usually before a Widal reaction could be looked for.

Both primary broncho-pneumonia and the lobar form may, owing to their sudden development, be confused with other diseases in much the same way; and they are much more apt to be confused with diseases entirely remote from the lungs than secondary broncho-pneumonia.

Fortunately, lobarpneumonia in young children is not nearly so fatal as broncho-pneumonia. Children attacked with this disease are usually, though by no means always, over three years of age, previously vigorous and robust in health. Some writers assure us that lobar pneumonia is almost as common in infancy as it is after the third year. In my own work I have seen very few cases of lobar pneumonia in young children.

So many cases of lobar pneumonia in children are inaugurated with pronounced pain that our attention is entirely absorbed by the distress remote from the seat of disease. Pneumonia beginning with severe abdominal pain, either localized or general, high fever, constipation, vomiting, rapid breathing, and anxious facial expression, might very easily pass for a case of appendicitis, until the development of pulmonary sounds indicates the disease in hand. These indications, unfortunately, are often late in appearing.

The importance of an early diagnosis between appendicitis and pneumonia is obvious. Let the physician invariably interrogate the lungs at every point and allow no surgical interference in these cases until he has demonstrated the lungs to be sound. Pain in the side, cough, or an expiratory grunt, no matter how infrequent, is suggestive. A leucocyte count in these cases is not helpful, since it is usually high in both diseases. In adults, pneumonia in the upper lobe is rare; but in children it is of very frequent occurrence. In these cases resembling appendicitis, however, the disease is most apt to be found at the base, rather than at the apex, on the right side. The fever in pneumonia will usually be found much higher than in appendicitis, and it is apt to remain steadily high until defervescence. Respiration is rather more rapid in pneumonia, and close inspection often discerns a slightly restricted movement on the affected side. The abdomen may be tympanitic, tender on the right side, in pneumonia, and even the right rectus muscle rigid, but it has been observed by Barnard that the gentle but firm pressure of the flat hand will detect a light relaxation of the abdominal walls between each respiration in the case of pneumonia, which is not the case in appendicitis.

The crepitant râle is most surely heard during deep inspiratory efforts and coughing, and only after the most diligent and frequent search should it be considered absent. Too much importance, however, should not be placed upon its absence, as it is often not heard in children; neither is the dullness on percussion so pronounced as in adults.

If convulsions occur at the beginning, it is pretty good evidence that the case is not appendicitis. The finding of the pneumococcus of Fraenkel would point strongly toward pneumonia; but unfortunately sputum is rarely obtainable from children.

Cerebral symptoms may so predominate in a case of pneumonia at the beginning that some difficulty may be experienced in eliminating meningitis. Convulsions, vomiting, headache, general hyperesthesia, and high fever may be present in either, and some time may elapse before there are characteristic developments.

The usual respiration-pulse ratio of 1 to 4 is more apt to be maintained in meningitis than in pneumonia, where it often reaches 1 to 2. Respiration is not usually so rapid in meningitis, nor will there be present that appearance of breathlessness, expansion of the alae and the dark red flush in one cheek. In meningitis the tache cerebralis is nearly always present; strabismus; rigidity of the neck, and Kernig's symptom are quite commonly present, and it is not likely that a cough will be present. Some assistance may be derived from an estimation of the chlorides in the urine, since in no other acute disease will the chlorides be found so low as in pneumonia.

Other diseases may somewhat closely simulate pneumonia, but probably none so important as those mentioned.

If the physician is not in constant attendance upon children with the infectious diseases of childhood, he should warn those in attendance to be alert and observant of any symptom, no matter how slight, and to report to him at once, so that the invasion of broncho-pneumonia may be met promptly. And, further, before making a diagnosis of appendicitis or meningitis, the physician should give the chest and head the very best examinations of which he is capable.

THE UNCERTAINTIES OF EARLY DIAGNOSIS AND THE NECESSITY OF EARLY AND VIGOROUS TREATMENT OF DIPHTHERIA.*

By T. F. McMahon, M.D.,
OF ONTARIO.

The death rate from diphtheria in Ontario, as elsewhere, is altogether too high. In 1902, 2696 cases were reported, with a mortality of 15 per cent. In Toronto, 893 cases were reported with 115 deaths—a mortality of 13 per cent. Hamilton had 22 per cent. of deaths, Brantford 16 per cent., and Ottawa 12 per cent.

In Ontario the people are as a rule well fed and well housed, and the results ought to be much better than in the crowded, poverty-stricken centers of the older countries. In the pre-antitoxin days our percentage of mortality was much lower than in New York and the large cities of Europe, where the mortality averaged from 30 to 40 per cent. If their percentage mortality has been lowered from the above rate to 16 per cent. or less, surely ours in Ottawa ought to show a corresponding decrease. But the report of the Ontario Board of Health shows that in 1902 it was 15 per cent.

I have questioned a large number of practitioners who use antitoxin faithfully and intelligently and they tell me that they now rarely lose a case of diphtheria, whereas in the pre-antitoxin days a very large percentage of their cases succumbed.

I am not going to enter into any argument to prove the efficiency of antitoxin. I take it that you will agree with me that nearly every intelligent practitioner is as firmly convinced of the efficacy of antitoxin in diphtheria as that of quinine in malaria or mercury in syphilis. I shall assume then that we are all believers. The object of my paper is to point out that many lives are lost that ought to be saved, and that as a result of faulty or tardy diagnosis and late and half-hearted treatment the death rate is double or treble what it ought to be. Let us examine our consciences and find wherein we have been remiss.

For many deaths we are not responsible. Those in charge of sick children often do not call in the physician until fatal poisoning has occurred. But there remain a large number of cases in which the physician is called and yet the undertaker follows in his wake. Let us examine the causes of his failure.

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* Read at meeting of Ontario Medical Association, 1904.

1. His attention is not specially directed to the throat and he fails to look at it, and diagnoses something else. By the time he recognizes his error the case is hopeless. The golden rule is, "Always examine the throat of a sick child no matter what the symptoms are." The physician who fails to diagnose diphtheria because he did not look at the throat ought to be prosecuted for malpractice.

2. He examines the throat and thinks he has a case of tonsillitis or coryza or croup to deal with; or that, even if it is diphtheria, it is so mild that the old-fashioned remedies are sufficient for its cure.

3. He fails to follow up a suspicious case and finds too late that the patient is in a desperate condition.

4. He treats one amongst many children and fails to protect others exposed to contagion by a preventive injection.

5. He uses antitoxin, but is half-hearted and does not use enough.

6. In a case of laryngeal diphtheria he uses antitoxin—perhaps in large doses—but fails to make an early resort to accessory remedies such as calomel fumigation and intubation.

7. He makes an early diagnosis but puts off the injection of antitoxin until to-morrow or the day after.

For myself I must confess I have made all these blunders, and have had occasion more than once to bitterly regret them. But it is now some five or six years since I have had a death from diphtheria in my practice. I well remember the last two I lost. In one I was called in to see a sick child; it had a discharge from the nose, but on carefully examining the throat I found no membrane. The parents told me they would let me know if the child was not doing well. Three days later I was called in and found the child dying from laryngeal and nasal diphtheria. In the other case I diagnosed herpetic tonsillitis, because the spots were confined to the tonsils—small, white and discrete. Some four or five days later I was called in to find the child—who in the interim had been playing on the street, and doubtless spreading the disease among the neighbors—dying of laryngeal stenosis.

I had a couple of similar experiences in which the result was not so deplorable, but my culpability was as great.

Catastrophies like these caused me to ask myself—"Can they not be avoided?" "Is it possible to always diagnose diphtheria at the first visit?" "Can I afford to wait from one to three days for a bacteriological report?" "And can such report always be depended upon?" The conclusions I have arrived at are that such catastrophies almost always can be avoided; that it is often not possible to diagnose diphtheria at the first or any other visit without bacteriological examination, and I believe firmly that a bacteriological report is not always to be depended upon.

The Toronto Board of Health has an exceedingly efficient and painstaking bacteriologist—so has the Ontario Board of Health. And yet both will, I think, admit that they have made many negative reports where the subsequent course of events proved beyond any reasonable possibility of doubt that the swabs were taken from a case of diphtheria. I could quote some examples from my own practice, but the following three cases will serve to illustrate the difficulties:

1. Dr. Dwyer reports the case of a Toronto physician, swabs from whom were repeatedly examined by both Prof. Amyot and Prof. Shuttleworth, without any diphtheria bacilli being found. And yet severe—indeed almost fatal—paralysis, involving the arms, legs, throat, larynx and heart, supervened, and two others in the family developed the disease.

2. Dr. Nevitt reports the case of a young woman who had a violent sore throat—clinically, diphtheria. To prevent the spread of infection to the children in the house he sent her to the Isolation Hospital. Repeated examination failed to reveal the presence of diphtheria bacilli, and yet she developed well-marked paralysis.

3. Dr. Uren reports the case of a girl aged twenty sent by him to the Isolation Hospital as a case of diphtheria. In four days she was sent home, as no diphtheria germs were found. But three weeks later extensive and serious paralysis supervened.

I need not multiply examples, for it is admitted that for some mysterious reason we may fail to get diphtheria germs from swabs taken from undoubted cases of diphtheria.

Having arrived at the above conclusions, I asked myself,, "What are you going to do about it?" And the answer was evident—take no chances. In every case in which there is even a suspicion of diphtheria give antitoxin at once, and give it freely. Get a report in every doubtful case, but do not wait for the report but inject at once. As soon as bacteriological examination shows the presence of diphtheria bacillus give an injection to all the children of the household to prevent the spread of infection. Of course isolation and other methods of preventing the spread of infection must not be neglected, but neither must the preventive injection. Doubtless, if this practice is carried out, many unnecessary injections will be given. I have often injected antitoxin and found as a result of bacteriological examination that the case was not one of diphtheria. But what harm has been done? I have never seen any bad results from the injection. In fact, it has been my experience that the cases of membranous tonsilitis thus treated seemed to clear up more rapidly than those treated otherwise, and many physicians have expressed to me the same opinion.

There is but one serious objection—that of expense. But in my opinion prevention is cheaper as well as better than cure, and it would be cheaper for the municipality to supply physicians with preventive injections for the poor than to have the diphtheria hospitals crowded with patients kept for an average period of five weeks at an average expense of well on to a dollar a day.

There is nothing like a local examination to illustrate a truth, and this is supplied in the experience of the Victoria Hospital for Sick Children with preventive injection, as related by Dr. Rudolf in a recent article in the British Medical Journal.

In 1901 about one hundred cases of diphtheria developed in the hospital, nearly all of which were treated with antitoxin. Of these only three died, and one of these was complicated with scarlet fever. Between January 1 and July 7, 1902, forty-two cases (all showing Klebs-Lœffler bacillus) developed. All, except a few of the mildest, were treated with antitoxin. Forty-one recovered, and the last one that died developed uremia due to kidney disease that predated her admissioon to the hospital. For five years there had never been two successive weeks in which diphtheria had been completely absent from the hospital. Early in July, 1902, a determined effort was made to stamp out the disease by the injection of immunizing doses into all the patients. The result was most gratifying. For the five months reported not a single case of diphtheria occurred in the hospital, though the usual number of cases had been occurring elsewhere in Toronto. The germ was found present in the throats of many, but its hosts were immune and hence no diphtheria occurred.

The diagnosis of diphtheria is usually easy—often difficult—and sometimes impossible. A patient may have a sore throat, with diphtheria bacilli present, and yet no membrane forms. If exposure to diphtheria is known to have occurred, it is better to regard the case as one of mild diphtheria and treat it acordingly.

There are certain mild exudative inflammations of the throat in which it is quite impossible to say whether we have diphtheria or pseudo-diphtheria to deal with. They look exactly alike, and the symptoms and duration are the same. Indeed, so much alike are they that if we were called in and told that one case was diphtheria and another pseudo-diphtheria we should be quite unable to say which one was the diphtheria. Should we wait for a bacteriological report and risk fatal poisoning and involvement of the larynx? No! We should inject antitoxin and make it a practical certainty that our patient will recover.

A fatal source of error is to confound catarrhal laryngitis or the old-fashioned inflammatory croup with diphtheria of the larynx. When there is even the smallest patch of membrane in the pharnyx the diagnosis is clear, but unfortunately there are many cases of primary laryngeal diphtheria. We cannot be sure whether the laryngeal stenosis is inflammatory or membranous, and the only safe treatment is to inject antitoxin at once. Should subsequent events show the case to be one of diphtheria we have probably saved a life, and if not we have done no harm. I cannot be too emphatic on this point. Every case in which there is even a suspicion of laryngeal diphtheria should be promptly treated with antitoxin. Many years ago, in the pre-antitoxin days, I reported a series of cases treated with calomel fumigations with excellent results. Time and further experience have but confirmed the favorable opinion I then formed of this plan of treatment.

For the past ten years I have treated all my cases of laryngeal diphtheria as follows:

1. Inject antitoxin, full doses.
2. Fume calomel under a tent (30 grs. an hour) until stenosis is relieved.

3. Intubate early if symptoms demand.

I regret that I have not a full record of my cases, but the results have been marvelously good. Every case I have seen and diagnosed early has recovered.

The early diagnosis from scarlet fever has in some instances puzzled me very much. The diseases often co-exist in the same patient, and in some malignant cases of scarlet fever there is a very imperfect development of the rash—indeed the patient sometimes dies before the rash is due to appear. In three of my cases there was so much doubt that I injected antitoxin. In each the rash came out on the second or third day, and diphtheria germs were found in cultures from the throat. Dr. Tweedie tells me that there is mixed infection in about 16 per cent. of the cases admitted to the Toronto Isolation Hospital.

The diagnosis from ordinary follicular tonsilitis is not always easy, nor is it indeed possible in some instances. In fact mild diphtheria quite frequently occurs with the semblance of ordinary follicular tonsilitis. My rule is to have swabs examined from every case, and, when in doubt, to inject antitoxin. Whether the exudate is removable or not influences my diagnosis but little. It can sometimes be readily removed in diphtheria, whilst on the other hand it is quite adherent in many cases of pseudo diphtheria.

A syphilitic throat sometimes closely resembles diphtheria, but with care there is little probability of error.

The last source of uncertainty in diagnosis I shall deal with is nasal diphtheria—especially in the chronic form. An irritating discharge from the nose of a sick child should always excite suspicion and lead to careful inquiry even though no membrane be visible in the throat. I saw such a case in a child less than a week old who had an offensive discharge from the nose, though nothing could be seen in the throat. How it contracted the disease I do not know, but bacteriological examination showed the presence of the bacillus, and if additional proof were wanting, it was supplied by the fact that the mother of the child contracted a severe form of the disease from it.

I was recently called at midnight to see a child that had been ill for three days, the parents supposing it had quinsy because it had had an attack of that disease some little time before, and the symptoms were similar. I found the child desperately ill with nasopharyngeal diphtheria, but after an injection of 2000 units it made a prompt recovery: On looking for the source of contagion I found that a young man in the house—a salesman in one of our large departmental stores—had an offensive, irritating discharge from the nose for about two months which resisted ordinary treatment. Bacteriological examination revealed the presence of diphtheria bacilli in the nasal secretion. In spite of vigorous treatment it was some six weeks before he was free from infection, although he felt well and ate his meals heartily throughout the whole three months.

One who recognizes the uncertainties and difficulties of diagnosis, and is prompt, bold and fearless in his treatment, will have a very low death rate indeed.

I believe that antitoxin is an absolutely certain specific remedy when given in sufficiently large doses early in the disease.

The most fatal form—laryngeal diphtheria—causes death either from stenosis, broncho-pneumonia, or sepsis, none of which will develop if a large dose of antitoxin is administered on the first day of the disease.

Children with enlarged tonsils and adenoids are in especial danger and require a specially large dose.

The same is true of nasal involvement. Intubation as a rule is not done early enough.

For the ordinary case of pharyngeal diphtheria without nasal or laryngeal involvement, I find a single dose of 1000 units, if given early, quite sufficient.

Dr. Louis Cairns published a most interesting paper in the Lancet of December 20, 1902, on the intravenous injection of antitoxin. There are, he says, a certain number of malignant cases which show no improvement after the sub-cutaneous injection of even large doses (20,000 to 30,000 units) of antitoxin. He suggests two causes for its failure.

1. A selective influence on the part of the glands in filtering out the active constituents of antitoxin.

2. There is a definite chemical relation between toxin and antitoxin, and neutralization of the toxin goes on more quickly in concentrated solutions than in dilute ones.

He recommends an initial dose of from 20,000 to 30,000 units, injected into the median basilic vein, and the indications he gives for its employment in this way are:

1. Special malignancy of the disease.
2. Involvement of the lung, especially if this complicates laryngeal involvement.
3. A moribund condition when first seen.
4. Marked toxic symptoms.

He reports fifty consecutive cases in the Belvidere Hospital, Glasgow. Of these he considered twenty severe enough to warrant intravenous injections. Of the fifty but three died. Thirty-one of the fifty cases showed laryngeal and seven nasal involvement. Fifteen were complicated with broncho-pneumonia. In seventeen cases it was found necessary to perform tracheotomy, and of these but one died.

The first case in which intravenous injection was tried was of special interest. A girl two years old was admitted pulseless, with cyanosed lips and cold extremities—the heart beating 185 to the minute, respirations 60, laryngeal obstruction almost complete. Tracheotomy was performed, but the lividity continued and was found to be due to broncho-pneumonia. The urine was loaded with albumen; 6000 units of antitoxin were injected into the median-basilic vein. The patient continued desperately ill for two days, but on the third day mucus was expectorated freely and she steadily improved and made a perfect recovery.

In another case broncho-pneumonia developed in spite of the sub-cutaneous injection of 18,000 units of antitoxin. Tracheotomy was then performed and 22,000 units of antitoxin were injected intravenously. There was immediate improvement and prompt recovery.

Gentlemen, when we see how much can be done for malignant cases, am I not justified in stating that our death rate is too high?

SURGICAL ANESTHESIA IN CHILDHOOD

By A. F. Erdmann, M.D.,

LECTURER ON ANESTHESIA AT THE LONG ISLAND COLLEGE HOSPITAL.

Fortunately few children succumb to an anesthetic. There are no special statistics subsequent to 1893, the year of the Lancet report; if such were obtainable, I would expect that the percentage of fatal cases reported since that year—forty-five patients under fifteen years among 600 of all ages—would be greatly lessened. Speaking generally, the child bears an anesthetic better than the adult. A representative report is that of the St. Mary's Free Hospital for Children (New York), whose record is that in thirty-five years there have been no deaths on the table. If all reports were like that, the anesthetist would feel easy about every narcosis in childhood. Unfortunately, we each of us privately know of too many fatalities. The child is safe if the anesthetic is carefully given—safer than most adults, for it has not yet overdrawn its health account, as so many adults have done; nor is it dealt with as carelessly as many adults are. I find that most anesthetists have an instinctive solicitude for the safety of a child and are more cautious when one is under their care. In addition to this, few of the major and severest operations are necessary in the earlier years of life. So the comparative immunity of children can be accounted for without giving the child great consideration. On the other hand, certain facts are well known, and if negligently regarded or entirely lost sight of, will rise up in the judgment of many unreported cases. Any narcosis is a serious attack upon a child's vitality. To prolong it by unnecessary delay, either by failing to complete important details of the operation before the anesthetic is begun, or by unreasonable slowness on the part of the operator, is a crime against the little patient. It is no less necessary to husband the child's body-heat by avoiding exposure to a low temperature either in the room itself or from a cold table or covering; and especially should an anesthetist be careful if the patient has lost a large amount of blood.

Childhood ends with puberty. Children's hospitals usually consider this period to be fourteen years. I have noticed that within this age-limit there are three well defined sub-periods: 1. From the time of the beginning of sentiency through the period of the first dentition. 2. The interval between that and the beginning of the second dentition, during which there is the development of intellection. 3. The transition period, from about six to fourteen, during which time the body is assuming more definitely the characteristics of the preadolescent stage. For the purpose of my paper, I am led to define yet a fourth, the earliest period, that of the fœtal life. To consider the peculiarities of each of these stages of the child's development requires more time than is at our disposal this evening. It will have to suffice that mention is made only of those features which have an immediate bearing upon the subject under consideration. So I endeavor to frame a reply to this question. In what particulars does a child differ from an adult that it should be treated in a manner peculiar to itself when subjected to a general, an inhalation anesthetic?

During its intra-uterine existence, the child is affected by changes in the maternal organism through the intimate relations of their blood. It is certainly conceivable that an anesthetic agent which will penetrate to and affect the protoplasm of a cell of the brain is equally able to pass into the blood of the placenta; and that it does so is seen in the report of a case of fatal fœtal narcosis occurring in the course of a protracted delivery during which the mother was given forty-eight ounces of chloroform. Perhaps many another still-born baby died in the same way, and it is an open question whether many a child who was said to have been squeezed to death by a forceps was not quite as much poisoned by the anesthetic. The safe way is to use only as little chloroform as possible. Ether is not so safe for the fœtus because so much more of it is taken up by the maternal blood and by just so much more lessens its oxygen carrying power.

Up to the first two or three months after birth the infant retains many of the characteristics of its fœtal condition with respect to a narcosis. Cutaneous sensibility to pain is slight and sentiency is barely perceptible. At this time usually no anesthetic is required for the few if for any surgical interferences which may be necessary. I find that Benno Müller (Hamburg) takes the same view in his Handbuch-Narkologie—"Es ist sogar im algemeinen Brauch, ein Kind unter 1 Jahr nich zu narkotisieren."

At the Babies' Hospital (New York) it is a rare case which requires an anesthetic. Circumcisions are usually done without it. Dr. Satterwhite, the anesthetist at the Hospial for Ruptured and Crippled (New York) once anesthetized a child only a few days of age whose abdominal wall had to be sewed together to cover a bad condition of eventration. Even then he gave only a whiff and felt, he says, that even so little was hardly necessary.

At the New York Foundling Asylum it is quite the rule to give ether for every operation, regardless of age. It is not because the narcosis is dangerous to the child, but because what little has to be done can usually be done without.

It is when the infant has begun to find itself and to have pronounced likes and dislikes that the question of a general anesthetic must first be seriously considered. Three peculiarities of the infant must be kept in mind. 1. The naso-pharynx is of very small dimensions; a slight encroachment of the mucous wall upon its lumen may make it dangerously small. 2. The sternum and spine are very flexible; they may readily be distorted so as to disturb the relation of the thoracic contents. 3. The lung capacity is proportionately much less than at a later age; there is a greater abundance of connective tissue, the bronchi are larger and the alveoli are but rudimentarily developed. One is not surprised, then, that an infant cannot readily respond to conditions which require an extra amount of respiratory power. This may be the case if the upper air passages are narrowed by a congested state of the mucous membrane, or by a diminished capacity of the alveoli because of an engorgement of the pulmonary vessels, or even because of a faulty position of the trunk, or a careless pressure of an arm or blankets upon the chest.

These conditions necessitate the choice of an anesthetic which relieves in the best manner any tendency to a congested condition of the air passages, and a method of administration which insures full and free respiration. The preference is given to chloroform. though many operators will use nothing but ether. Personally, I am finding ethyl-chloride to be a very efficient agent. My paper before the Associated Physicians last winter covers this ground quite thoroughly (see *Medical News*, May 28 1904).

Concerning the method of administering, only this need to be said, that all the "don'ts" which are to be heeded in the case of an adult apply equally here; especially the cautions to keep the body warm, to maintain a free air way and to keep pressure off the chest. One particular point needs to be remembered, that a child's head cannot be placed in a position of extreme extension without incurring the danger of blocking the fauces. The manipulation of the lower jaw must be mainly relied upon to maintain open air passages.

By the end of the third year, with the completion of the first dentition, the infant is fast losing its immaturity. The anesthetist now has to deal with lungs which are in a state of complete functional activity; the character of the respiratory movement is more pronouncedly abdominal and has decreased in rate from 45 to about 40 at three years and 25 at five years; while the heart has not yet fully assumed its adult position, for the apex beat is to be located in the fourth interspace, it is more securely anchored and is confined in a less flexible thorax.

The pulse rate has decreased from 110 to about 75 at the end of the second year, and continues until, at the age of five years, it is usually about 90.

It is at this time that the manner of administration becomes more important. Shall the child be forced to take the anesthetic or will one allow the child to take its own time? There is no uniformity of opinion on this question. It is a matter of individual aptitude as well as depending upon the occasion and the disposition of the child. I have found that most anesthetists prefer to let the child have its own way, for then they obtain a calmer anesthesia and are better able to control the anesthetic. It happens, though altogether too frequently, that the anesthetist is hurried and cannot do as he pleases, but must, willy-nilly, force the anesthetic. This is the practice in a certain institution when the yearly round-up of tonsilotomy and adenectomy cases is made. An assistant starts the etherization and then, before the child is fully under the anesthetic, passes it on to the anesthetist, who completes the anesthesia and holds it until the operator is ready for the case. In this manner thirty or forty operations are done in an hour. In private, also, one is sometimes confronted with the necessity of simply holding a child by main force and compelling it to inhale the anesthetic. In such cases I strongly favor using ethyl-chloride or one of the mixtures A. C. E., or one of the Schleich solutions, or Anesthol. They are rapid, pleasant and can be pushed with safety. If a drop of some volatile oil—eucalyptus or gaultheria—is sprinkled upon the cone it will disguise the anesthetic odor somewhat. The cries and coughs but hasten inspiration. I have never had occasion to notice that the psychologic shock was severe or that the danger to the heart is in any way as great as in the case of an adult. Some children will submit very readily, and if one has plenty of time and will use some tact, most every child can be sufficiently persuaded to yield, may be, though a reluctant consent, to the imposition of the inhaler. If one will remember always that both ether and chloroform are heavier than air, it will be easy sometimes to give them enough to get used to the smell of the anesthetic even by holding the cone some distance above the face. It is of no little importance to use some form of an inhaler which is as unlike an instrument as possible. I was much interested to notice that in the New York hospitals particularly they are doing something which I have been practising for some time. That is, to use a so-called paper and towel cone. It is easily put together, is clean, and, best of all, does not frighten the child. (For a description with illustration, see *Medical News,* May 28, 1904.)

At this age chloroform is not generally employed; yet there is no objection to its use if carefully handled. The very fact of the relatively greater strength of the heart in a child than in an adult, the rare presence of disorders of the circulatory apparatus, together with the acknowledged greater susceptibility of the kidneys and lungs to inflammatory changes, would seem to give chloroform an *a priori* advantage. I believe that custom has a great deal to do with this matter, for certainly in other parts of this country and in Europe a great deal of chloroform is used.

An unpleasant feature of the course of the anesthesia in children is the uncertain behavior of the eye. The child's eye is uncanny; it may remain wide open, but it is not glassy; sometimes the eyeball rolls about in an annoying fashion; occasionally one cannot place any reliance upon the pupillary reflex. Extremes should always be guarded against, especially any sudden dilatation of the pupil from a condition of marked myosis. The pulse may be very rapid—110 or 120 is not alarming; the respiration rate may be much accelerated. But it is the character of these signs which indicates the condition of the patient, and their inter-relations. Of special importance is the appearance of the patient. A blue color is less to be feared than a deepening leaden, ashy pallor. I am always afraid when the lips begin to grow white and the tip of the nose and the ears turn a dirty yellow. A safe rule always is, "when in doubt, stop." Supposing it does mean that the patient vomits and shows you were mistaken as to the depth of the narcosis. Any one who has once anxiously watched for the first faint sigh of a returning respiration will risk a rebuke or ridicule rather than lose a life.

The third period of a child's life is one of a state of nervous instability. It must be treated with all due allowence for a tendency to emotional changes and disturbances of the cerebrospinal system due to rapid development and active molecular change. Hence, the initial stage of the narcosis is of most importance; the course of the anesthesia follows more closely that of the adult. I should now hesitate to force an anesthesia; yet it requires all the tact one possesses to overcome the timidity, and even fear sometimes, which one meets. At this time the so-called "lighter" anesthetics are valuable. The nitrous oxide gas can be used with great advantage as a preliminary to ether; the close-fitting face-piece and the bag are no longer likely to be a source of dread. Gas is not the ideal anesthetic for children. There is no ideal, to be sure. If ethyl-chloride shall prove to be able to quiet the muscular twitchings which are so annoying oftentimes when gas is employed, and can be given long enough to overcome all muscular rigidity, to that degree it will be better than gas, and in so far as these agents can be used to shorten the time of an operation they will be preferable to both ether and chloroform. If to no further extent, they should precede the others to allow of a more rapid and a more pleasant anesthesia.

Within this period probably most operations for either enlarged tonsils or hypertrophied post-nasal adenoids are done. This phase of the subject opens many interesting questions. Not the least vexatious one is that of the position of the child—in the anesthetist's lap or seated in a chair, or on the back or in the Rose position. Shall there be complete anesthesia or only the primary stage, the so-called "talking" anesthesia? Ordinarily Dr. Sturges' practice at the Seney Hospital (Brooklyn) is to be commended. The arrangements are made as for any operation, the patient is in the dorsal position and the anesthetist maintains a complete anesthesia. This, however, may not be practical, except with sufficient assistance. In private work Dudley's (Brooklyn) plan, to tie the child into a chair, does very well. The anesthetist can be of some assistance to the operator, especially if he will use the simple device for feeding the ether mask, which I will describe later. If now only a talking anesthesia is maintained, the fauces can be easily kept clear of blood and mucus. To the importance of protecting the lower air way, Bennet (New York) calls particular attention in a paper in the April, 1904, *Laryngoscope.* He cites in this connection the method devised by Crile (Chicago), who introduces heavy-walled rubber tubes through the nostrils to a point in the pharynx opposite the top of the larynx, respiration taking place through the tubes, and the anesthetic applied in this manner. The mouth is kept open and the tongue pulled well forward, while the space thus formed at the back of the pharynx is packed tightly with gauze.

Not many of the major operations are performed on children. Of more than 400 operations done during one year at the St. Mary' Free Hospital for Children (New York), out of a total of 1,000 cases less than 10 per cent. were of any magnitude. The operation itself, then, need have no further particular mention in this paper. It is interesting, however, to notice that many of the operations in this report, which is probably a typical one, deal with conditions which reveal some impoverished state of the blood or a lowered vitality. The anesthetist must always carefully note the general condition of his patient, and be on his guard that anesthetic plus operation plus lowered vitality be not greater than the resisting power of the organism. Of the general conditions which predispose to danger, first and foremost is the *status lymphaticus.* I found an editorial in the *Medical News* in the spring of 1902 which quoted a report from the Children's Clinic at Gratz that all the deaths occurring there during the past twenty years were in patients in whom this condition was proved at the autopsy. I do not know that I ought to do more than just mention this matter, for a most excellent article on the subject appeared in the January, 1904, number of PEDIATRICS. Suffice it to say that the *status lymphaticus* may be suspected in a child whose superficial lymph glands generally are involved—those in the neck and the axilla, the tonsils, the pharyngeal lymphatics, the circumvallate papillæ of the tongue. The spleen may be palpable. The child appears to be in perfect health, may be a trifle too fat, and perhaps the skin is thin and pale; the complexion pasty. If one encounters such a child it is undoubtedly best to avoid chloroform. Concerning rachitis and scrofula, one can say only what might be said of all depraved conditions. Conserve the strength, hurry as much as possible, use the least possible quantity of the anesthetic. Let the child have nourishment as late as possible before the operation, according to its condition and the nature of the meal. The same rules are operative in these cases in children just the same as in adults.

Concerning the induction of anesthesia while the child is sleeping, I have only to say that it can be done and is a good practice. The difficulties are that one is likely to give too strong a vapor, and to attempt it during a light sleep. Dr. Satterthwaite has had some excellent results at the Hospital for Ruptured and Crippled (New York). It frequently happens that the children fall asleep while waiting for the operation, and on a number of occasions he has been able to effect a narcosis without the child's knowledge. Such cases have been reported here, too. It has been the pleasure of my own experience as well. Only this morning I succeeded in continuing the natural sleep of a baby boy into the anesthetic sleep. It was specially desirable in this instance, for it was thought to be objectionable to let him become aware of the slight operation which had to be done about the prepuce. It is a procedure which deserves wider practice.

I fear I have left many important matters unsaid, but I hope I have touched the salient points of the subject.

In conclusion, permit me to show you the only new appliances which I have been able to find. This tubular spring is to slip over the ordinary Allis rubber cover so as to make the face opening fit any size face. One or more may be used for a child's face. By its means the regular adult size inhaler can readily be made small enough to fit even an infant's face. This other, a bulb ether container, is fitted, as you see, with a sharp-pointed metal nozzle, so that it can be stuck into a towel cone and enable the anesthetist to manipulate the cone and control the ether supply with one hand. Tieman has made both of these for me. I have found them very handy. Dr Tucker, of the Eye and Ear Hospital (Brooklyn), taught me a trick the other day which I have used with good results. It is to fold several thicknesses of gauze over one end of the Allis instead of threading it. I like that, because I can place one of these 5 grm. tubes of ethyl-chloride in my modified Allis inhaler, put on the cover and obtain a quick and pleasant anesthesia while completing the anesthesia by introducing ether through the side opening.

DEFECTS OF EYES, EARS, NOSES AND THROATS IN SCHOOL CHILDREN.*

By A. W. Hawley, M.D.,
OF SEATTLE. WASH.

The object of this paper is to awaken an interest in this important subject, and to enlist your support and co-operation in establishing, throughout this State some systematic plan for the detection and correction of these defects in school children. Systematic examinations of school children are now made, annually, in Connecticut under a state law, and in New York, Illinois and Texas under the directions of the State Boards of Health and the Boards of Education.

Statistics from the work of many individual investigators clearly show the necessity of such examinations. It is unnecessary to give a detailed report of these investigations. It is sufficient to say that in general from 30 to 40 per cent. of all school children have some refractive error, and that from 15 to 25 per cent. suffer from defects of the ears, nose or throat. To determine in a measure the condition of the school children, the writer examined over 400 pupils in three of the largest schools of this city. The results of this work demonstrate that the children of this city are no better off than those of other cities, and that there is need of action on the part of this Association and its individual members.

In the examination of the 400 pupils of the city schools, the vision of each was tested by the ordinary chart of Snellen's test letters place in good light, 20 ft. (6 meters) distant. An ophthalmoscopic examination could not be made because of the lack of proper facilities as to light or room. However, this was not essential to the value of the work. The nose and the naso-pharynx were examined, whether any complaint had been made or not, which resulted in the detection of a number of cases of adenoids and hypertrophied tonsils. The hearing was tested by tuning fork and by the whispered and spoken voice whenever suspicion pointed to ear trouble.

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* Read before the Washington State Medical Association, Seattle, Wash., July 12-14, 1904.

Acknowledging that this examination was by no means complete or perfect, nor all that could be desired, yet its results are sufficiently accurate to be of value in this discussion.

At the B. F. Day School over 165 scholars were examined, with the following results:

Ninety-seven, or 58 per cent., had some refractive error, vision being reduced to 6-9 or less.

Seventy-eight, or 47 per cent., had adenoids and hypertrophied tonsils, or both.

Twelve, or 7 per cent., had defective hearing or chronic suppurative otitis media, or both.

At the Central School over 160 scholars were examined, of whom

Seventy-eight, or 48 per cent., had some refractive error, vision being reduced to 6-9 or less.

Eighty-two, or 51 per cent., had adenoids or hypertrophied tonsils, or both.

Twelve, or 7 per cent., had defective hearing or chronic suppurative otitis media, or both.

At the Rainier School over 95 pupils were examined, of whom

Forty-one, or 43 per cent., had some refractive error, vision being reduced to 6-9 or less.

Fifty, or 52 per cent., had adenoids or hypertrophied tonsils, or both.

Six, or 6 per cent., had defective hearing or chronic suppurative otitis media, or both.

The percentages just given, of the defectives in our city schools, are considerably higher than those obtained from similar examinations in other cities. This is explained, however, by the fact that the children examined were selected by the principals because they were deficient in school work, or were supposed to be defective in some way.

In testing the vision of these children it was impossible to make a differential diagnosis between myopia and hyperopia, or astigmatism in all cases, on account of the lack of facilities for a proper examination. This would have been desirable and instructive, as the records of other investigations show that myopia is found with increasing frequency as the higher grades are reached, while, at the same time, the frequency of hyperopia decreases in almost the same proportion.

Erisman, in 1871, examined 4,368 scholars in St. Petersburgh, with the following results:

Class—	1	2	3	4	5	6	7	8	9
Myopia	13.6	15.8	22.4	30.7	38.4	41.3	42.0	49.8	41.7
Hyperopia	67.8	55.6	50.5	41.3	34.7	34.5	32.4	36.2	40.0

This increasing frequency of myopia and its deleterious influence upon the development and education of the child, has led to numerous investigations as to its causation. The conclusion is nearly unanimous that it depends much more on the demands made upon the eyes, by modern civilization and education, than to the influence of heredity, race or cranial formation.

At birth practically all eyes are hyperopic, and with age, progress towards emmetropia or the normal eye. The influences which prevent this beneficial change taking place, or delay its progress, are not entirely determined, though probably they are the same that produce the myopic increase.

The effect of education and intellectual advancement upon the eyes is most clearly shown by a comparison of the results of investigations made among the educated and the illiterate races. In Germany, probably the home of the most intellectual people of the world, as high as 50 per cent. of the students in the more advanced seats of learning were found to be myopic, to say nothing of hyperopia or astigmatism. In our country, in a number of cities, as high as 40 to 50 per cent. of the pupils are found to have ocular defects.

In Mexico, Ramas found, upon the examination of 2,000 school children, but 88 myopes, 60 hyperopes and 10 astigmatics. These defectives were all found among the mixed types, the pure Mexican being practically free from error.

Though hyperopia and astigmatism are not found as frequently as myopia, nor fraught with as much danger to the integrity of the eye, they are the cause of much suffering and are a great hindrance to the educational advancement of the child. Many a scholar's mental activity is greatly reduced by the suffering caused by these refractive errors. It is not an uncommon occurrence to transform the indolent, stupid, irritable, fault-finding scholar (even the school "dunce") into a cheerful, industrious, bright, active pupil who readily takes his place at the head of his class, by the correction of his refractive error with properly adjusted glasses.

The deleterious influence of ocular defects upon the mental and moral developments of the scholar will be best shown by the report of a few cases taken from the examinations recently made.

Case I.—E. S., age sixteen. Complained of headache and pain in the eyes, especially after reading or doing any close work. She was nervous, restless, and somewhat irritable. It was found necessary to give up some of her studies, and finally all school work for two weeks at a time because of the intense headaches and distress. Vision was found to equal 6-60 in each eye. Retinoscopy proved the error to be myopic astigmatism, refraction, 1.00-.50; ax. 180 in each eye, the correction of which by spectacles has entirely relieved all discomfort, and enables the patient to pursue her school work without interruption.

Case II.—J. V., age twelve. Complains of headache, nausea and dizziness, especially when at school. During vacation time she is entirely free from these symptoms. Vision equals 6-9 in each eye. Retinoscopy proved error to be a hyperopic astigmatism of comparatively small degree, the correction being plus 25 Sph. plus .50 cyl. ax. 90 for both eyes; which gives vision of 6-6. This correction worn constantly relieves all distressing symptoms, and permits her to continue school work in comfort.

Case III.—C. L. H., age eight years. Complains of headache when at school; can not see work on blackboard; is inattentive and restless; makes little or no progress in school, and is considered very backward. Vision, R. E. 6-18; L. E. 6-12. Retinoscopy proved error to be a hyperopic astigmatism as follows: R. E. plus .75 sph. plus 2.75 cyl. ax. 105; L. E. plus .75 sph. plus 2.00 cyl. ax. 105; which gives him vision of 6-9. A decided improvement has occured since he has been wearing the glasses.

Case IV.—N. H., age about 10 years. General condition poor, suffering from adenoids and hypertrophied tonsils, which are responsible for a bad nasal cartarrh; considerable deafness and suppurative discharge from right ear. Vision, R. E. 2-40; L. E. 2-40 (there is not much more trouble that she could reasonably be expected to possess). Teacher reported that she was doing practically nothing in school. Since having the myopia corrected and the adenoids and tonsils removed, she has become a comparatively strong child, and is succeeding in school quite well.

At the same time this child was examined, another was seen who was in practically the same conditions. Her parents will do nothing for her, probably through ignorance, though they have been urged by the principal of the school to have her treated.

These cases are a fair sample of the many found in the examination of school children. They are not extremes in either direction, and should help to prove the necessity of some systematic work in this direction.

About 50 per cent. of all those examined were found to have adenoids or hypertrophied tonsils, usually both. The detrimental effect upon the ears and the mental and physical development, particular of adenoids, is often very pronounced. The symptoms produced by adenoids are mouth-breathing, a want of proper nasal tone to voice, catarrh and colds which are frequent and more liable to occur on slight exposure, facial expression dull and listless. The aural symptoms, while not constant, are sometimes the first to attract attention to the naso-pharynx; earache is of frequent occurrence and commonly followed by a discharge; deafness and a sense of fullness in the ears is often complained of.

The report of one or two cases will serve to show the harmful effects of these conditions.

Case I.—I. B. W., age ten. Constant sufferer from colds and catarrh; frequently confined to bed with sore throat; physical condition very poor; appetite capricious; mentally rather stupid and dull; nervous, restless, excitable and irritable; breathes through mouth, nasal respiration being practically impossible; snored so as to be heard all over the house; voice wanting in proper nasal tone. At school always behind her class and below in her averages. The removal of the adenoid vegetations and the enlarged tonsils has changed the entire picture. She is strong and healthy—a good natured child—perfectly able to keep up with her classmates, and easily obtains marks above grade in all branches.

Case II.—C. M. Suffered from deafness, both ears, though no discharge; mouth breather; could not breathe through nose day or night; general health only fair; was not progressing as well as other children. A diagnosis in this case had been made of impacted wax as cause of deafness. Removal of the adenoid vegetations and hypertrophied tonsils has wrought a complete change. The hearing is perfect and the child more active and attentive.

Deafness and aural diseases are so closely associated with adenoids, in children especially, that any involvement of the ear should at once excite suspicion as to condition of the tissues in the pharynx and naso-pharynx. The prevalent idea of the laity that an aural discharge is of little consequence and will recover if left to itself, should be corrected. Many can trace their deafness to this idea. Besides deafness the involvement of the mastoid, with its train of complications, is frequently one of the serious results of neglect to properly care for a suppurative otitis media, acute or chronic.

Good hearing is of equal importance with good vision in the acquirement of an education. The proportion of defective eyes and ears among our school children is quite large. The educational loss to these children is very great. Means, therefore, should be provided to prevent as far as possible this great loss. Action is necessary.

I wish to present for your consideration the following:

Whereas, The deleterious influence exerted by defects of the eyes, ears, noses and throats of school children upon the mental, moral and physical development is not fully appreciated by educators and the public at large, therefore

Be it Resolved, That it is the sense of the Washington State Medical Association that measures be taken by the State Board of Health, the State Board of Education, all school authorities and, if possible, legislation be secured, looking to the systematic examination of the eyes, ears, noses and throats of all school children, that diseased conditions may be found and corrected.

Similar resolutions have been adopted by the American Medical Association, by the Mississippi Valley Medical Association, the Missouri Medical Association, and also by the State Medical Associations of New York, Illinois, Michigan, Colorado, Ohio, South Dakota and others.

The adoption of this resolution will be of little value unless some means be provided for carrying out its suggestions.

FRACTURES IN THE NEW-BORN.

By G. C. Trawick, M.D.,
OF NASHVILLE, TENN.

The statistics of some of the larger lying-in hospitals give a ratio of one fracture to each 250 deliveries. This is a frequency much greater than is ordinarily noted in private practice. It is very difficult to obtain any accurate statistics of this accident in private practice, on account of the failure of the attendant to report them, but the general practitioner will probably have one in about every 500 deliveries.

Fractures in the new-born occur in equal proportion to the number of operative deliveries. Almost invariably they are due to manual interference in delivery, under conditions that would sacrifice the life of the baby, and perhaps the life of the mother, without such interference. Fractures most frequently occur during breech extractions. Next in frequency come low forceps operations, plural births, podalic versions, high forceps, shoulder presentations, and embryotomy, in the order named. In any one of these complications, it may become necessary to fracture a bone of the fetus in order to save the baby. As the number of still-births decrease, there will probably be either an increased number of fetal fractures, or the number of induced labors.

There is no doubt, however, that a great many fractures result from the ignorance of the obstetrical operator; while he satisfies himself with the statement that it "could not be helped." The fractures most commonly resulting from ignorance are those of the humerus in breech extractions; fractures of the skull due to pressure through the abdominal wall in efforts to deliver an after-coming head; and multiple fractures in cases where violent obstetrical procedures have been performed, when induction of labor or Cæsarean section should have been done.

Cases have been reported of spontaneous multiple fractures in the fetus. Cazeaux mentions a child born after a rapid and easy labor, during which no force was applied, which had forty-three fractures involving the cranium and other bones. Another case is reported in which, after a very short and easy labor, a baby was born, bluish in color, and expired in a short time. Attention was called to it by its unusual shortness and great mobility in the continuity of its bones. One hundred and thirteen fractures were counted. The causes of this singular lesion are unknown; it is probably due rather to arrested development of the bony tissue than to fracture properly so-called.

Usually the fractures in a new-born babe are the result of manual or instrumental interference. They differ from other fractures only in their etiology, rapid repair, in frequency of complications, and in the application of apparatus to such small bodies.

Fractures by violence of uterine force alone, when a limb is caught between the hard parts of the mother and the body of the child, are very rare. Fractures of the skull pushed by uterine force through contracted pelves have been reported. Whether in manual interference or by uterine force, strain superior to the resistance of the fetal bone, exerted from without, through a comparatively short period of time, and with varying leverage, is the cause of these fractures.

In adults, the resistance of bone under normal conditions is said to be about that of cast iron. It has been demonstrated that a force of twenty pounds applied for one minute on the humerus of a still-born male child, with a leverage of one and one-half inches on each side of a fixed point, is sufficient to fracture the humerus transversely.

Uterine force is estimated at from six to three hundred pounds. In difficult labors, the force exerted by the uterus on a circle four and one-half inches in diameter—the dilated os uteri—is at least sixty pounds. If this force be deflected by the accoucheur's finger or instrument, against a point on a limb in the uterus or pelvis, such a force is more than sufficient to fracture the bone.

As predisposing causes of fracture may be mentioned: Weight of the fetus, the larger children being much more liable to fracture than their leaner fellows; sex of the child, male children being usually the larger, are more liable to fractures; early ossification of the bones, particularly the skull; position of the fetus, such as breech and transverse, or any condition requiring podalic version. Syphilis and rachitis are also common in fractures.

When the cranial bones are fractured, the parietals are most frequently affected. The injury is usually due to forceps, though it may occur spontaneously in birth through abnormal pelves. The fracture may or may not be followed by hemorrhage external or internal to the skull. The brain is liable to injury, but often escapes. When it is lacerated the injury may be quite serious. Intracranial hemorrhage may also cause death. If the fracture is compound, or if the depression be followed by symptoms of compression, as coma, subnormal temperature, and shallow respiration, there should be no question as to the propriety of elevating the bone. Depressions of the parietal and occipital bones usually correct themselves. But frontal depressions are commonly permanent. When there are no active symptoms or irritation or compression, no treatment is necessary.

Fractures of the jaw usually occur when delivering an after-coming head by the Smellie-Veit method, with finger in baby's mouth. While the danger of this accident must be borne in mind, yet it is not as frequent, nor as easily accomplished, as many text-books lead us to believe. Drs. A. B. Davis and Carmalt, of New York, report three cases of breech presentation, in which the fetus was known to be dead, where they found it impossible to fracture the inferior maxilla by this method. It takes an unusual amount of force, direct traction, to fracture the jaw. Most of these children are, fortunately, still-born, for the accident invariably leads to deformities in after-life. Dr. Lusk speaks of having fractured a jaw in an effort to convert a brow into a face presentation. The writer had the misfortune of fracturing the jaw in delivery of an after-coming head after version for prolapsed cord.

A fracture of the jaw can be held in position by a starch bandage around the head, or with a dental plate, and the child fed by gavage through the nose.

Fractures of the vertebral column have been reported, due to the Smellie-Veit method of delivering the after-coming head when the body of the child had been bent too far backward over the symphysis of the mother to save the perineum. In these cases probably the anterior spinal ligament gave way instead of the bone.

The awkward use of Schultz's method of resuscitation might fracture vertebrae.

A case of fracture of the ribs is reported by Gebhard, where a rib penetrated the lung after Schultz's method of resuscitation had been tried. Death of the child was caused by hematothorax.

Fracture of the sterum is unknown. It has been shown that the sternum may be forced back to the spinal column without fracture.

Fractures of the clavicle probably occur oftener than is generally stated, because the infant suffers very little inconvenience from the accident. It is usually caused by hooking two fingers over the shoulders in delivery of an after-coming head. Schultz's method will also occasionally cause a fracture of the clavicle. The force is one of torsion and bending, a combination requiring the least power necessary to accomplish a fracture.

The treatment should be the same as for adults. Sayer's dressing, applied for ten days, will suffice. If not treated, after two or three months a careful examination will usually not fail to reveal deformity.

Fractures of the scapula are practically unknown. Fracture of the humerus is probably the most frequent of all the fractures in the new-born. In the great majority of cases in which this accident occurs, a breech has been extracted, either a breech presenting or following podalic version. It rarely becomes necessary that a humerus be fractured in order that the baby be saved. In one case seen by the writer, the anterior arm became caught behind the symphysis, and it was purposely swept across the back of the baby, necessarily breaking it, for fear that further delay would endanger the child's life. In another case, after delivery of the head in a normal vertex presentation, the shoulders became jammed into the pelvis, because of extension of both arms. Two fingers of the operator were hooked into the axilla, and with great difficulty an arm was delivered after purposely fracturing the humerus. The babe was still-born, weighing seventeen pounds. In breech cases, or after version, upward displacement of the arms is usually caused by traction on the legs and the omission of suprapubic pressure in the extraction. The arms being extended by the head, descent of the latter is effectually prevented. The arm which is most accessible must be first delivered, the child's trunk being swung well forward if it is the posterior arm, or backward if anterior. The fingers must be passed upward to the elbow and the arm swept in front of the baby's face. The trunk is then swung to the opposite side and the other arm delivered. The greatest care is necessary to avoid injury to the arms. In narrowed pelves, under conditions when rapid delivery seems essential to the life of either mother or child, the act of sweeping a child's arm across its face is accomplished with great force. In such conditions breech extraction always endangers the child's arms.

Deformity is usually the result of improper treatment, but in time corrects itself. Musculo-spiral paralysis has been noticed. This may also take place from too tight bandaging, and has been due to inclusion of a nerve in the callus.

In treating this condition, a plaster-of-Paris case around the chest, and the arm bound to the case after reduction of the deformity, either with plaster, starch, or ordinary gauze bandages, meets all the requirements of immobilization. If not applied with care, this may impede respiration. A towel folded over the chest, and removed after the plaster is hard, prevents that danger. This dressing may cause erythema, desquamation, and erysipelatous-looking eruptions, which render the patient uncomfortable. Drying powder and white flannel beneath the dressing usually eliminates this difficulty. If the arm be bandaged in a well-padded case, there will be no danger of gangrene or of musculo-spiral paralysis due to pressure. It is well to caution the nurse against permitting the child to lie on the injured side, even if well protected by a solid case. Splints are exceedingly unsatisfactory, because they slip readily and cause permanent deformities, which may require refracture. Such slipping may cause delayed union. If plaster-of-Paris or starch bandages be not used, it is better to bandage the arm to the side of the chest with cardboard on the inner side of the arm, because then there is less liability to displacement than with splints. The enforced absence of bathing does the child no harm, and may have distinct advantages.

Fractures of the forearm are very uncommon, and may be managed very similarly to those of the humerus.

Three cases of fracture of the pelvis at the sacroiliac joint are reported by Ruge. As the pelvis of the fetus is relatively smaller than the shoulder or head, and well covered, there is very little danger of its breaking.

Fractures or dislocations of the femur are certain to occur if the baby's leg be extended behind its back in breech presentation or podalic version. In these conditions, the leg should be flexed on the thigh, and the flexed limb rotated inward and extended across the abdomen. Traction with a blunt hook in the groin may fracture the femur. The writer broke one femur by a too zealous traction in the groin with the fingers. Shortening is very apt to occur if the fracture is in the upper third of the bone. As this is the usual site, shortening is very common.

In treating these fractures, the method of Dr. Wyeth will probably give the best results. Flex the leg upon the thigh, and the thigh upon the body, until the fragments are in accurate apposition, then fix by plaster-of-Paris cast left on for two weeks.

A double Liston splint from axilla to heels, with a cross bar at the feet, separating the thighs for convenience in dressing and cleansing, is good when the fracture is in the lower third of the femur. Immobilization is thus more securely maintained than by a single splint.

The administration of the thyroid gland in treatment of fractures is at present being experimented with by some investigators. That its administration has some influence on the growth and development of bone is well-established. It also causes a marked increase in stature. Some writers claim that in cases of retarded growth from rickets or albuminuria, as well as infantile myxedema, the use of the thyroid extract will cause increase in the length of the long bones, provided ossification of the epiphyseal cartilage has not taken place. It has been demonstrated that the bones of animals from which the thyroid gland has been removed show changes very similar to those which occur in infantile myxedema. They consist mainly in arrest of growth in the diaphysis—a slow ossification of the epiphyses of the long bones. Considering these facts, some were led to watch the effect of removal of the thyroid gland in cases of fracture artificially produced in animals. They claim that union was markedly retarded in many instances. From such observations as these, some hopeful therapeutists tried the effect of administering thyroid extract in delayed union fractures, and have reported quite a number of cases apparently cured by this means alone, after several usual methods failed. In a case of compound fracture of the leg, which massage and immobilization failed to cure after twenty-four days, under thyroid, consolidation took place in a few days. Another case of fractured rib, which had not reunited after thirty-five days of the usual treatment, had firm union on the tenth day after giving thyroid. This treatment is not devoid of danger, and should be resorted to only after mature deliberation.

BIBLIOGRAPHY

Carmalt, Med. Report, 1897, N. Y. Lying-In Hospital.
Cazeaux, Practical Midwifery.
Webster, Text-Book of Obstetrics.
Fathergill, Manual of Midwifery.
Journal of Obstetrics and Gynecology, 1902.

PEDIATRICS SECTION, NEW YORK ACADEMY OF MEDICINE.

December 8, 1904.

Dr. David Bovaird, Jr., in the Chair.

Rachitic Fracture of Femora.—The great difficulty of diagnosing this case, presented by Dr. La Fetra, made it of especial interest. At the age of 21 months the infant had been unable even to sit up without support. The spleen and liver were enlarged, the humeri and radii were bowed, the tongue protruded, and sweating of the head was noted. Hyperplasia of epitrochlear and inguinal glands was also present. Swelling and tenderness were evident at the middle of the shaft of the femora, and there was an angular deformity of the femora with convexity outward. It had very much the appearance of the simple antero-external deformity of rickets without fracture, but the tenderness at the middle of the shaft told against this diagnosis, and a radiograph revealed a green stick fracture of each femur.

Improvement of Erythema Induratum under Treatment.—A boy of three and one-half years of age was presented by Dr. La Fetra, who first saw the patient in June, 1903. The boy had never been exposed to tuberculosis, had never had fever or night sweats. The spots of erythema induratum were more evident to the touch than to the eye, and were distributed pretty much over the whole body. Before the eruption appeared the boy had a dactylitis which opened spontaneously. No tubercle bacilli were found in the pus. Dr. Lartigau excised and examined a nodule on the patient's left hand and found tubercle tissue and bacilli, and a mass of cheesy material. Strangely enough, although the boy had had measles and lobar pneumonia the previous winter, both favorable to tuberculosis of the lungs, and the lungs have remained perfectly healthy. There is no general glandular involvement. The treatment consisted of guaiacol in minim doses twice a day, and cod liver oil.

Dr. J. Sobel said that when the condition was diagnosed before the occurrence of ulceration the chances for improvement were better than with a late diagnosis. The appearance of the eruption on the face, trunk and upper extremities he thought somewhat unusual.

Dr. Bovaird said that when he left college he had supposed syphilis accounted for all swellings of the phalanges, whereas as a matter of fact, most of the cases of dactylitis which had come within his experience were tuberculous in character, Cephalocele Occipitalis Inferior.—A female infant nine months old, was presented by Dr. Sara Welt-Kakels, who had first seen her three weeks before. The patient was the fifth child of healthy patients, breathed feebly at birth and was cyanosed. A tumor on the occiput was noted at birth, and had grown no larger since. The child had had whooping cough, and four weeks before had suffered from vomiting and diarrhea. She was poorly nourished, thoracic and abdominal organs normal. Thymus dulness was present, spleen palpable, liver somewhat enlarged, no sugar or albumin in urine. The tumor was covered with normal skin, was translucent and soft. It grew larger when the baby cried, and was reducible by pressure. An opening in the skull, apparently communicating with the foramen magnum, could be detected after reducing the tumor. The use of the X-ray revealed a faint shadow, possibly due to cerebral substance. Dr. Welt-Kakels referred to the old classification of such tumors as meningocele, encephalocele and hydroencephalocele, and said that their origin depended on the faulty closure of the cerebrospinal tube, which occurred about the second week of fetal life. Amniotic adhesions might occasion the condition. The prognosis she considered bad, although surgery offered encouragement.

Method of Obtaining Urine from a Female Infant.—A method by the use of a small bottle and a piece of adhesive plaster split into a four-tailed bandage was demonstrated by Dr. Welt-Kakels.

A Case of Depressed Fracture of the Skull, Showing Marked Mental Improvement after Operation.—The patient was presented by Dr. B. V. D. Hedges. The fracture occurred six years ago, at which time the boy was a perfectly normal child. After the accident his character changed entirely. He was vicious, violent in temper, dishonest, indecent and devoid of affection. After four years of this distressing experience his mother brought him to the hospital, and the entire area of depressed bone was removed, the operation resulting in his restoration to normal development mentally and morally. The importance of the case lies in its bearing on the functions of the frontal lobe.

Hypertrophy and Stenosis of the Pylorus in Infants.—A paper on this subject was read by Dr. F. L. Wachenheim, who added one more case to the small number (only 60) reported of this condition. In this case the infant, five weeks old, had suffered from uncontrollable vomiting after the second week, and from constipation alternating with some diarrhea and green stools. There was great emaciation and weakness. Limewater and very thin barley water were the only things that would stay on the child's stomach, and sometimes even these were rejected. The child died when seven weeks old and the autopsy revealed a hypertrophic stenosis of the pylorus, the pyloric end of the stomach being 3 cm. long and thick and hard like a new growth. It was 14 mm. in diameter, the duodenum 8 mm. Muscle, with a thickening of the submucous tissue, constituted the walls of the pylorus. No changes were seen in the mucous membrane, which had been drawn into lengthwise folds. Dr. Wachenheim thought that in the aggravated form of this condition, unless relief were obtained by surgical means, death would ensue within a few weeks. The following generalizations were drawn from the cases the autopsies of which are reported. The onset occurs at an average age of two weeks, and death at nine and a half weeks. He excluded from this class those who lived more than four months, since they often survived beyond infancy and even reached maturity, always somewhat troubled by symptoms of obstruction unless operated upon. Very few of the infants whose cases were reported were artificially fed, and improper food could therefore be eliminated in the consideration of the causes. The proportion of males to females in the cases reported was 2½ to 1. Forcible vomiting was characteristic. Free HCl was not invariably responsible for the acidity of the vomitus. The occasional occurrence of biliary vomiting with diarrhea and green stools made diagnosis difficult, and the delay occasioned by the necessity of close and prolonged observation was often fatal to the patient. Palpation was often powerless to detect the hypertrophied pylorus because the constant crying made the muscles of the abdomen so rigid.

Dr. Wachenheim reviewed the various opinions of clinicians as to the pathogenesis of this affection. Some believe that the essential element is spasm, affirming that the duration of the disease is too short to admit of more than moderate muscular growth, and that the autopsies show frequently only a slight stenosis. Others declare in favor of the opinion that the lesion is entirely anatomical. Dr. Wachenheim accepts the possibility of either condition, the prognosis being better when the trouble was due to spasm than when hypertrophy was pronounced. He also recognizes a possible combination of the two conditions in which either one alone would be comparatively without danger, but each reinforcing the other produced a serious condition. Absolute obstruction had never been found.

Dr. Wachenheim was inclined to think this affection more common than had been generally supposed, since it was not easy to diagnose, particularly when the digestive disturbances common in the summer were combined with it. Obstinate constipation and vomiting with gradual loss of weight was the combination to be watched for, and it should be remembered that the forcible character of the vomiting and its close relation to the ingestion of food were important. Almost no other disease showed an appetite above normal in conjunction with such a condition.

Treatment should be begun upon the assumption that the case was of the milder type. The diet advised by Freund consisted of breast milk and later whole milk, with the use of Carlsbad water. Thin barley water could be given frequently. Lavage sometimes gave relief. If no improvement in strength and weight was noted after two weeks' treatment the only hope lay in surgical intervention, and the mortality in such cases was very high.

Dr. Bovaird agreed that the number of cases of this affection was greater than generally reported, and commented on the fact that few appeared in American literature.

Dr. J. Dorning concurred in the difficulty of diagnosis, and said that even the symptoms considered classical might be confounded with those of simple gastritis. Palpating of the abdominal contents was very difficult except in cases of great emaciation where the abdominal wall was relaxed. He had found it of assistance to give a few whiffs of chloroform before attempting palpation, and had never encountered any bad results from so doing. He also remarked on the probable overlooking of many cases.

Dr. R. G. Freeman concurred in this opinion, but added that many cases were reported as such where there was no real stenosis, but merely a simple thickening of the gut.

Dr. Wachenheim said that in all the autopsy cases doubtful cases had been rigorously excluded. It was exceedingly difficult to discriminate precisely between a normal pylorus and a pathological thickening of the same.

ELECTION OF OFFICERS.—Dr. L. E. LaFetra was elected chairman for 1905 and Dr. John Howland secretary.

EDITORIAL

GONOCOCCUS INFECTION IN CHILDREN'S INSTITUTIONS.

Probably no known infection is more to be dreaded in institutions tenanted by large numbers of young children than the gonococcus infection. This is true because of the unmanageable character it presents, and until comparatively lately its dangers were augmented by a large ignorance on the part of those whose duty it should be to guard against them.

The sheer good luck and natural resistant powers of the body which in some instances come to the rescue of institutions exposed by the carelessness or ignorance of their guardians seem to have been ineffective where this infection is concerned, and an infected child once received spreads disease unchecked among the other inmates. This state of affairs is not so much to be wondered at when we reflect that where only clinical symptoms are taken into consideration many cases must go undetected, even where the danger is recognized and watched for, and that in many minor institutions, day nurseries and the like, only the most obvious cases are treated and these in a wholly inadequate manner. That such conditions imply an appalling increase in gonorrheal vaginitis and arthritis, to say nothing of the threat of ophthalmia, is inevitable in view of the obstinate resistance of the infection even where it is fought with every precaution known to science.

The experience of the Babies' Hospital in New York City and the investigations made by Dr. L. E. Holt in regard to other institutions form at present the most significant body of literature in our possession upon this subject, and one that should be studied and taken to heart by everyone connected with the management of public homes, nurseries and hospitals where numbers of children are cared for.

In the *New York Medical Journal* for Saturday, March 18, and March 25, Dr. Holt recounts the struggles of the Babies' Hospital with the gonococcus during the past ten years. Up to 1896 no microscopical examinations were made, and cases identified by clinical symptoms received no treatment beyond the use of a boric acid solution when napkins were changed. Even when the opening of the clinical laboratory brought the microscope into use as an aid to diagnosis, the extremely contagious character of the disorder was not appreciated, and a boy of five months was allowed to occupy the same ward with two established cases of gonorrheal vaginitis. The fact that he developed gonorrheal arthritis and general pyemia was easily explained in the light of subsequent experience.

In 1899 the hospital experienced its first epidemic, starting from three children from a day nursery who were transferred to the country branch before the nature of their disease had been discovered. As soon as cases were discovered the patients were put in the infected cottage and cared for by separate nurses. The napkins from this cottage were washed separately, boiled and disinfected, but although the precautions prevented successfully the contraction of ophthalmia, the infection spread, and every girl in the infected cottage, which was used as a dormitory by the larger children, contracted vaginitis. A general house disinfection, as rigorous as that employed for scarlet fever, was found necessary to check the disease. Greater care in the admission of patients kept the following year comparatively free from trouble, but in 1901 three children, two of them from another hospital, started another house epidemic equally obstinate. The same precautions were employed, but no amount of napkin disinfection was effective, and it became necessary to stop admitting female infants entirely. The year 1902 was signalized by the recognition of the existence of some other portal of entry than the eyes or the vagina. Three cases of multiple gonococcus arthritis developed in the wards in patients none of whom had ophthalmia. One was a boy two and a half months old, and another was a girl of one year who had no vaginitis. In this year also the infection was introduced into the new hospital building by one case of vaginitis and one of ophthalmia, and in spite of every precaution, in absolutely clean new wards eleven new cases promptly developed, including three of gonococcus arthritis in boys less than ten weeks old. Within the first six months in the new building 29 cases of vaginitis and 8 of arthritis developed. Finally, in 1904 the rule was inaugurated to admit no female child without microscopical examination of the vaginal secretion, and if infection was found in children whose condition demanded hospital treatment, to place them under quarantine.

If so much difficulty was experienced in dealing with the matter in an institution with the equipment of the Babies' Hospital, it may readily be imagined what was the result of investigations among other institutions, and there is no doubt that Dr. Holt is justified in his conclusion that gonococcus infections, especially vaginitis, are steadily increasing in the city. This conclusion was confirmed by the discussion that followed the reading of his paper before the Academy of Medicine. That this increase can be checked only by the most extreme rigor of isolation and disinfection is evident when we find Dr. Holt establishing the fact that the contagion in the epidemics mentioned was conveyed by the nurses in the change of napkins. The precautions implied by this means of contagion are infinite in number and toilsome in nature, but absolutely essential if the ravages of the gonococcus are to be checked. The question of the portal of entry in gonococcus arthritis has not been solved, but Dr. Holt strongly suspects the mouth.

Space does not permit a recital of the prophylactic measures which have been found most effective. It can only be said that the invariable use of napkins on suspected children of any age, and a rigid quarantine extending to nurses and attendents must accompany strict measures of disinfection.

The most imperative need in the matter is for an awakening to the danger and a determination to fight it intelligently on the part of all who have the care of children in institutions.

RECURRENT VOMITING IN CHILDREN.

One of the most puzzling disorders encountered by the physician in the treatment of children is the recurrent vomiting which appears independent of errors of diet and accompanied by no pain save what can be referred to the strain of the vomiting. Some attempt has been made of late to study this matter, and it offers an interesting field for investigation.

There are wide differences of opinion as to its etiology and its treatment, but great unanimity as to its obstinate character. It has been known to appear as early as the second month, but generally after the first year, and tends to disappear as puberty approaches somewhere about the age of eleven years. Sometimes, but not invariably, a prodromal period is noticed characterized by malaise, headache, loss of appetite, coated tongue, and generally constipation, in a child previously well. The attacks vary widely in duration, from a few hours to several weeks, although the latter period has not been common and was broken by brief intervals of relief. The periods at which the attacks recur also vary markedly, from a few weeks to several years, although three months is probably about the most common period. While the attack lasts no food is retained, and retching sometimes becomes violent. Rapid emaciation results from practical starvation, but after the attack subsides, building up goes on as rapidly in its turn.

The first attack is easily confounded with acute gastritis, appendicitis, intussusception and other forms of intestinal obstruction in their early stages, or even with Addison's disease, as the marked pigmentation has been known to be present.

The prognosis is generally good, only four fatal cases being recorded. In two of these autopsies were obtained, but without conclusive results, the important feature in one case being an almost complete necrosis of the mucosa of the stomach and intestines, and in the other a fatty degeneration of the liver.

Almost the only constant symptom is the persistent vomiting, although constipation is common. Thirst has frequently been noted, and the abdomen may be either distended or retracted. There may be a tenderness in the epigastrium, and some headache.

Examination of the urine does little to clear up the problem, even when, as is the general rule, it confirms the presence of acetone indicated by the odor of the breath. Right at this point is where the "doctors disagree." Marfan believes the acetone to be the toxic factor and the vomiting due to acetonemia. Griffith thinks that the acetone is merely a guide to altered metabolism which produces toxins and eventually vomiting when no more toxins can be stored up. Holt thinks that a lithemic state is responsible for the condition, a view supported by a history of gout in the parents of some of the patients and, in one case observed by him, a diminution of uric acid excreted during the attack. Rachford, too, believes that a lithemic state exists due to an incompetence of the liver, producing autointoxication.

Edsall has a theory which he is able to support to a certain degree by success in treatment. He believes that the vomiting results from acid intoxication, calling attention to the similarity between the worst cases of this disorder and fatal diabetes. Respiratory difficulty of the "air hunger" type, drowsiness passing into coma, thirst, acetone in the breath and a urine composition identical with that of diabetes mellitus save in the absence of sugar, are all found in recurrent vomiting. In pursuance of this theory he treats with large doses of bicarbonate of soda, and has seemed able in some cases to avoid or cut short the attacks. But on the other hand, many cases have failed to yield to this treatment, and, as Langmead points out, the constituents of the urine on which Edsall places dependence are so frequently found unassociated with vomiting as to lessen their value in his theory. There is little doubt that acid intoxication occurs, but that it occasions the vomiting is yet to be demonstrated. And when improvement has followed the administration of the bicarbonate of soda it is only by the *post hoc ergo propter hoc* argument that we can assert that it is due to correction of the acid poisoning.

Other measures that have been employed more or less empirically are starvation for twenty-four hours, rectal feeding, limiting of mouth feeding to barley water and broth, rectal lavage, magnesia, normal saline per rectum or subcutaneously, and occasionally morphine combined with atropine. One cannot escape the impression, however, that most practitioners adopt these various measures largely from a desire to "do something," and that the avowal of some of them that "nothing stops it" sums up the general experience.

The matter is treated at some length by Shaw, Tribe and Langmead in the *British Medical Journal* for February 18, 1905, and the authors make it perfectly evident that there is plenty of room left for study and discovery in regard to the etiology and treatment of this disorder.

ABSTRACTS

Recent Experiences with Catarrhal Jaundice.—H. N. CHAPMAN (St. Louis Medical Review, Feb. 4, 1905), reported five or six cases of catarrhal jaundice in children which have presented themselves to his attention during the past few months. The age range has been from three to ten years. The symptomatology has been fairly uniform in all the cases. Subjective symptoms consisted of anorexia, almost complete, abdominal distress not distinctly localized, languor and lassitude. Objectively we find, the skin discoloration of an exquisite yellow hue, as is also that of the conjunctiva and mucous membranes; putty-colored pasty stools, and constipation. Diarrhea may be an accompaniment though not a reasonable one, and if it exists there is an enteritis added to the gastro-duodenitis. Vomiting is usually though not invariably present; high colored urine, bilirubin being present in large quantities. Mucus, saliva, and tears do not show the presence of the coloring matter of bile; there is depression of spirits. Much gas is formed in the bowels, because of imperfect intestinal digestion, due to the absence of bile. If there is any enlargement of the liver, it is difficult to detect; there is tenderness in the right hypochondriac and epigastric regions. The child is usually not very ill and is brought to the physician because the parents became afraid of the bad color. The etiology is not very clear. An epidemic has been reported. It may complicate or follow any of the contagious diseases, as well as influenza or malaria. Probably the usual starting point of the trouble is some article of diet not well digested, setting up some gastroduodenitis, which spreads by continuity to the bile ducts, obstruction being caused, with consequent resorption of bile into the lymph vessels, and thence being poured into the blood, from which source the tissue staining takes place. One of my cases was caused in this manner: A little fellow, five years old, was given two glasses of cold milk, which he drank greedily; this was during the afternoon. After going to bed he was taken very sick at his stomach and vomited the milk in large curds. After thoroughly emptying his stomach he was relieved and slept till morning. About two days later he had become quite yellow, showing the classical symptoms of catarrhal jaundice, from which he recovered within a week or ten days. A study of the symptomatology of catarrhal jaundice in the human family may throw light on the causes of much of the unhappiness of the race, and probably account for not a few suicides. As some one well remarked, "No one ever died a triumphant death with a disease below the diaphragm"; and the melancholy and depression of spirits that result from this disease are no doubt accountable for much of our unhappiness. The prognosis is invariably good. Death does not follow from simple uncomplicated catarrhal jaundice. The treatment is simple. Regulation of diet, interdiction of fats and starches. Fruit and broths and lean meat and toast may be taken in moderation; water freely. Calomel and salol constitute probably the best drug treatment, with saline purgatives to relieve constipation and clear out the intestinal canal.

Primary Pneumococcic Appendicitis with Pneumococcic Peritonitis.—L. SHAW, M.D., F.R.C.P. (Brit. Med. Journ., July 2, p. 18). A girl, aged eighteen, was admitted to Guy's Hospital on April 5, 1904. On the night of April 3, while in good health, she was seized with violent pain all over the abdomen, so severe as to "double her up." Early on the morning of April 4 she vomited; between then and admission she vomited several times and the severe abdominal pain continued. There was frequent diarrhea, but whether this was the result of purgation, or a symptom of the disease, could not be ascertained.

She was too collapsed to allow of complete examination. The pulse was 120, almost imperceptible; the respirations were 24, and thoracic. The temperature was 102 degrees. There was little abdominal tenderness or rigidity. There was evidently extreme prostration from a very acute abdominal lesion. She was too ill to operate upon and died a few hours after admission.

Necropsy.—There was acute general peritonitis, with thick buttery lymph, and about one pint of pale turbid fluid in the peritoneal cavity. The lymph was thickest in the region of the cæcum and appendix. The appendix was swollen, reddened, turgid, and buried in lymph; there were no adhesions or perforation.

Two Cases of Infectious Splenic Anemia in Childhood in a Family.—DR. PITINI (Gazetta Medica Lombarda, March 28, p. 120). A boy, aged three, came under observation. His sister, aged four, died three years before from anemia, accompanied by enlargement of the liver and spleen. The boy had measles a year before and then began to grow thin and had interrupted fever, which was higher in the evening. The abdomen swelled on the left side and the feet and face were often edematous. He was very lean and pale. The glands were not enlarged. The gums were swollen and easily bled; the internal surface of the left cheek, opposite the last molar teeth, showed a circular ulcer. The liver was enlarged; the spleen was swollen, hard, and indolent. Blood examination showed 38 per cent. of hemoglobin, 2,225,000 red and 10,500 white blood cells. A virulent diplococcus was isolated from the blood.

Case II.—His brother, aged eight months, had always been very thin and pale. There were no swollen glands. The liver and spleen were enlarged. Blood examination gave 40 per cent. hemoglobin, 2,500,000 red, and 8,000 white blood cells.

In both cases the fever ranged from 100.4 degrees to 101.4 degrees in the morning to 102.2 degrees to 103.1 degrees in the evening. The history excluded syphilis; the blood examination, malaria, leukemia, and pernicious anemia. The only diagnosis was therefore splenic anemia. The first child was in a desperate condition. Iron and arsenical treatment proved nearly useless. The second one died from relapsing gastroenteritis.

Spastic Diplegia During Pertussis.—J. H. W. Rhein, Philadelphia (Journal A. M. A., March 4), reports the case of a child, thirty months old, who had spastic diplegia in the legs with nystagmus. Later a similar condition of the arms gradually developed, with difficulty in swallowing, etc. The child became greatly emaciated, and finally died after numerous general convulsive attacks, worse on the right side. The autopsy revealed numerous small hemorrhages in the right and left frontal cortex, slight thickening of pia in the paracentral region, with a few small cortical hemorrhages. There were areas of distended perivascular spaces containing many round mononuclear cells, which were also distributed everywhere throughout the cortex; their protoplasm was granular. In the occipital region there was thickening of the pia and intense red blood cell infiltration. Microscopically, marked degeneration was observed in one cerebral peduncle. The general appearance was that of the hemorrhagic meningo encephalitis. Rhein believes that the widespread lesion of the cortex was due to a toxin acting on the vessels and setting up an inflammatory process. This caused local destruction of fibers, especially in the paracentral region, followed by degeneration in the pyramidal tracts. The minute cortical hemorrhages he attributes to the convulsive attacks preceding death.

Ophthalmia Neonatorum.—E. Jackson, Denver (Journal A. M. A., March 11), holds that rigid cleanliness, while it will greatly diminish the number of cases of blindness from this cause, will not always prevent it, and that the Credé method, while efficient, sometimes causes irritation. He sees some hope in the use of some of the less irritant silver salts than the nitrate, but believes that we need more experience in their use before we can give them the same confidence. Even in case of actual purulent disease, careful treatment will usually prevent blindness. He thinks that social conditions favoring or opposing the spread of gonorrhea are more important than legislative measures aimed directly at purulent conjunctivitis, and that gonorrhea is a malignant contagious disease and should be publicly recognized and dealt with as such in all its clinical manifestations.

Acute Meningitis.—W. T. COUNCILMAN, Boston (Journal A. M. A., Apr. 1). The author describes the conditions of acute meningitis with more special reference to that form produced by the *Diplococcus intracellularis meningitidis,* which he believes is constantly occurring in a sporadic form, aside from the not infrequent epidemic aggravations. The infecting organism, he states, is one of low vitality and incapable of a purely saprophytic existence. The statistics fail to give any adequate idea of the frequency of the infection in ordinary years. His experience, however, leads him to believe that with rare exceptions all cases of primary meningitis are due to this micro-organism, and that it would be impossible without sporadic infections to bridge over the intervals between the epidemics. It is possible, too, that the germs may even inhabit the normal mucous membranes, of the nose, for example, as has been shown in a few cases, where it produces a rhinitis, and infection of the meninges may take place through the lymphatics or by continuity of surface. We can only explain the epidemics of the disease, he says, either by an increase of virulence of the diplococcus or by a decrease in the resistance of the tissues. The underlying causes of epidemics are unknown, and even atmospheric conditions can not be excluded. He discusses to some extent the relations of meningitis to pneumonia, as shown by the Massachusetts health statistics, and illustrates with a chart. Primary meningitis from the pneumococcus or staphylococcus is rare; secondary types are not so infrequent. The paper concludes with a description of the pathologic condition in acute meningeal disease.

Laryngeal Papillomata in a Child.—L. D. BROSE, Evansville Ind. (Journal A. M. A., Mar —). The author reports the successful removal of papillomatous laryngeal growths from two children, aged 11 years and 19 months, respectively, The diagnosis of these conditions is easy if laryngoscopic view is possible. Otherwise the vocal and respiratory disturbances, aphonia or altered voice, difficulty of breathing, especially during sleep, etc., will have to be relied on. If the patient is old enough to co-operate with the physician and an endolaryngeal operation is possible, life can generally be saved and the voice restored, but recurrence is to be expected in 25 to 50 per cent. of the cases. When an endolaryngeal operation can not be successfully done the only recourse is in external laryngotomy, preferably after tracheotomy. Thyrotomy in a child is tedious and difficult, and the mortality is high when done for papilloma.

Hairlip and Cleft Palate.—G. V. I. Brown, Milwaukee (Journal A. M. A., Mar. 18), after a classification and description of the varieties of these defects, condemns the radical operation in the young infant on account of the high death rate, the danger of meningitis, the unsatisfactory cosmetic results at that age, the risk of too great approximation of the turbinates, occluding the nasal passage and producing mouth breathing, etc. If conditions are favorable he would use adjusted strips to prevent the action of the lower jaw from forcing the maxillary bones apart and to cause an opposite effect when the child laughs or cries. Of course, the child should be mouth fed; the sucking habit should be overcome. The proper age is after the full eruption of the deciduous teeth and before the speech habit has been fully acquired. He would then use a screw appliance, which is illustrated, to approximate the bones and would also use proper treatment for the diseased oral surfaces. In young patients this will probably be sufficient, in older patients some crushing operation may be required. It is most desirable to bring the anterior portions into direct contact so as to allow freshening, not only of the soft borders, but the bony tissues as well, thus securing complete circulation to nourish the flaps when the final muco-periosteal operation is performed. He emphasizes the importance of having needles selected with curves suiting each part of the operation. The fuller details of the technic of his method are left for a future article. The importance of the after-treatment is especially dwelt on, and he particularly mentions singing as one of the best practical aids to speech improvement. The patients are often neurotic, and the complicating neuroses must be considered in the treatment. With his method he thinks the restoration of the palate in its nearly perfect form can be obtained. The difficulties of oral asepsis are noticed, and he says his post-operative sheet anchor for the mechanical cleansing of the parts is dioxogen, which, with a 2½ per cent. of carbolic acid solution, should be used alternately each hour during the day, and at least four times at night. For this he uses a hospital syringe and injects with force enough to dislodge little particles of débris, but not enough to do injury. Wiping with cotton wool applicators is required also three or four times a day, and nebulizing some of the oil preparations are used as supplementary after the washings throughout the course of treatment. The article is elaborately illustrated.

The Influence of Red Light on Vaccination. (Impfreaktion unter Rothlicht.)—ROESLER (Wiener klinische Wochenschrift, No. 47, 1904). Goldmann recently reported his experience in vaccinating forty children in a photographic dark room and afterwards bandaging in red. In these cases he found no inflammatory action which was present in the control cases. Other investigators have obtained like results. In Goldmann's cases, those vaccinated under red light and the red bandages removed a few days later, ran the ordinary course, as did those vaccinated under the red light and not bandaged. In those cases, however, where the red bandage was retained until after the pustular stage, he found the modified course.

The author vaccinated five hundred men in the day-light, and after the lymph died applied the bandages. One-half of these men were bandaged with red gauze covered with red gelatin wrapped in red gauze. The other half were not bandaged. On the eighth and ninth day a distinct difference was noticed in the two groups. Among the red bandaged cases only six vaccinations were negative, while twenty-two were negative among the others. The pustules dried more quickly and had only a small inflammatory area. The auxillary glands were not enlarged or tender in any of these cases. The pustules did not become confluent and were much smaller and the scar was small, deep and typical. The author believes that his investigations show that the red light exerts a favorable influence over the course of vaccination and that its influence is not exerted on the lymph itself at the time of inoculation, but at the time the organism is infected.

On the principle that the red light limits suppuration, the author treated some cases of wounds from horse bites, which invariably suppurated. Under the red light treatment the swelling and redness were lessened and the wounds were decidedly smaller and covered with only a slight amount of pus.

Clinical Study of Ninety-seven Cases of Summer Diarrhea in which the Intestinal Contents were examined for Dysentery Bacilli.—MAY MICHAEL (Woman's Medical Journal, Mar„ 1905). This report contains a synopsis of the clinical features of the cases of summer diarrhea studied bacteriologically by Dr. Weaver and his associates. The records were made at the Daily News Sanitarium by Dr. Bethene Coone, Dr. Vail, and the author. The character of this sanitarium, which is more of a temporary refuge than a place for permanent treatment and care, explains the incompleteness of some of these observations.

SYNOPSIS OF THE NINETY-SEVEN CASES STUDIED.

Age and sex.—Of the 97 cases of summer diarrhea examined for dysentery bacilli, 60 were males and 37 females. Sixteen cases were in patients less than six months of age, and of these, four were severe, six moderately severe, six mild. Of 36 cases in patients between six months and one year, 14 were severe, 11 moderately severe, 11 mild. Of 40 cases in patients between one and two years, six were severe, 18 moderately severe, three mild. Consequently, the majority of cases occurred between one and two years. It seemed that cases occurring between six months and one year were most severe.

Method of feeding.—Only nine of the children were breast-fed at the time of the attack; 16 others were partly breast-fed. Of these 16, two received, in addition to the breast, condensed milk, 12 mixed diet, one laboratory milk, one Mellin's food. Of the 66 artificially fed children, 43 had general diet, 10 milk or modified milk, eight condensed milk, two Eskay's food, one oatmeal gruel. Hence, the largest number of cases occurred in artificially fed infants.

Predisposing causes.—In only 24 cases did the attack seem to depend upon special conditions; in three cases it followed weaning, in two change of diet, in 19 the feeding had been manifestly improper.

Principal symptoms—In 45 cases the stools contained mucus and blood; in 28 only mucus; in 23 neither mucus nor blood; in one case there is no record.

The number of stools varied from two to thirty in 24 hours. In about half of the cases there were from two to ten stools in 24 hours.

Tenesmus occurred in 23, vomiting in 52, persistent vomiting in seven.

Complications.—Eczema in two, furunculosis in three, bronchitis in 16, pneumonia in two, stomatitis in seven, prolapse of rectum in five, convulsions in three. In 28 cases there was evidence of rickets; all except eight were or had been breast-fed; in 10 of these cases the attack was severe, in 12 moderately severe, in six mild.

Termination.—Three died, 54 improved, 11 remained stationary, and of 29 there was no final record left at the sanitarium.

These 97 cases may fairly well be divided into two groups: (1) Cases of gastro-intestinal catarrh, or fermental diarrhea, in which the toxic symptoms predominated; (2) Cases of follicular enteritis, ileocolitis or colitis, in which the inflammatory symptoms predominated.

Cases of the first group were characterized by sudden onset, loss of appetite, vomiting, and diarrhea. The fever ranged from 99 degrees to 101 degrees in mild cases, and rose to 104-5 degrees in the severe ones. The stools numbered from six to ten a day, were yellow or green and slimy, thin and watery, or brown and offensive; they often contained undigested food and mucus. The child was restless, with dry mouth and coated tongue. Sometimes, if the toxemia was great, convulsions occurred at the onset and the disease ran a severe course with continued high fever and marked nervous symptoms.

Complications were not common, but at times, eczema, furunculosis, stomatitis, whooping-cough, bronchitis, and pneumonia occurred. Recovery within five to six days was the general termination, although the disease occasionally became chronic and lasted for weeks.

In the second group the inflammatory symptoms were more marked. The onset was acute, the attacks being ushered in by diarrhea, often accompanied by vomiting; the stools, at first fecal, soon consisted almost entirely of mucus or mucus and blood, this last element varying from a few flecks to a large amount. The temperature was, as a rule, but slightly elevated, 100-1 degrees, although at times normal or subnormal, and sometimes at the beginning very high. Tenesmus was usually present and often associated with prolapse of the rectum. Abdominal pain was frequent and quite intense just before stool. These cases ran a variable course from one to six weeks, but recovery was the rule.

SYNOPSIS OF TWENTY-FOUR CASES OF SUMMER DIARRHEA FROM THE STOOLS OF WHICH DYSENTERY BACILLI WERE ISOLATED.

Age.—Under six months, one; between six and twelve months, two; between one and two years, 15.

Method of feeding.—Breast-fed, three; partly breast-fed, three; artificially fed, 12 (eight, general diet; two, cow's milk; two, condensed milk); no record, six.

Principal symptoms.—In 22 cases the stools contained mucus and blood, in two only mucus. Tenesmus occurred in 11 cases and vomiting in 13; rectal prolapse in two; bronchitis in four.

Termination.—Recovered or improved, ten; unimproved, five; died, two; no final record, seven.

Hence, cases associated with dysentery bacilli in the stools presented more the clinical picture of ileo-colitis.

The question whether infection from B. dysenteriae causes a clinical entity has been discussed by a number of writers. Dorothy Reed[1] has studied a series of cases in which B. dysenteriae was isolated from the stools and has drawn the following conclusion: "Blood and mucus or much mucus in the stools, where there is no occasion for such an appearance, as intussusception, extreme purgation, etc., indicates infection with the B. dysenteriae; even a little mucus points to such an infection if such stools have existed for a long time. A certain number of cases of infantile diarrhea present a symptom complex comparable to adult dysentery and are caused by the B dysenteriae."

Knox[2] says that among children, diarrheas due to B. dysenteriae cannot be differentiated from the ordinary summer diarrheas.

Hastings[3] has found the Shiga bacillus in cases diagnosed clinically as follows: Ileo-colitis, 25; cholera infantum, one; entero-colitis, two; fermental diarrhea, one; gastro-enteritis, two; enteritis, four.

La Fetra and Howland[4] believe that all types of diarrheal disease as characterized by their clinical symptoms are to be found among these cases (62 cases in which the Shiga bacillus was found); some of these were examples of severe and some of mild ilocolitis; others could be classed as only the mildest form of intestinal indigestion.

Holt[5], drawing his conclusion from all the cases studied by the Rockefeller Institute, says: "Infection with the dysentery bacillus is associated with almost every sort of intestinal disturbance accompanied by diarrhea, except the severe acute intestinal intoxication, cholera infantum. The B. dysenteriae is associated with inflammatory forms of diarrhea of all degrees of severity, mildest, most severe, acute, protracted, subacute; occurring both as a primary disease and a secondary disease, often occurring in institutions as a terminal infection in infants suffering from marasmus."

Rotch[6], from the study of a series of cases, concludes: (1) That there are no specific symptoms besides the presence of B. dysenteriae in the discharge to determine that B. dysenteriae is the cause of an especial case of ileo-colitis; (2) that B. dysenteriae may cause the clinical type known as fermental diarrhea or as ileo-colitis.

Koplik[7], in discussing the question, says the bacillary diarrheas occur for the most part in older children, although they may occur in very young children, and have been found in intitutions or in certain localities. They are a distinctly limited class of diarrheas, and do not include all the forms which are gradually being controlled by modern methods of infant feeding.

Duval and Bassett[8] state that summer diarrheas are caused by intestinal infection with B. dysenteriae Shiga, and are therefore etiologically identified with acute bacilliary dysentery of adults. These cases from which the dysentery bacillus was isolated include examples of so-called dyspeptic diarrhea, entero-colitis, malnutrition, and marasmus with superimposed infection.

Clinically the 24 of our 97 cases in which dysentery bacilli were found did not differ from the cases of ileo-colitis in which the dysentery bacilli were not found.

The success which has been attained in Japan with the specific serum treatment of dysentery in adults encouraged its use in infantile dysentery. Acording to Shiga the mortality in adult dysentery by its use was reduced to one-third below that given by the symptomatic treatment. On the whole, however, the results in infantile dysentery are disappointing. Only 12 of the 87 cases reported by the Rockefeller Institute showed any improvement attributable to its use. Holt[9] says the conditions for success in the use of the serum are, first that it must be used early before serious lesions have developed, and second, that it must be used in repeated doses (10 c.c. daily in moderate cases, repeated two or three times daily for several days in severe ones). He believes that the promising cases are the sharp acute attacks with symptoms of severe infection, where the real problem is to combat the infection, not to maintain the nutrition; also that, inasmuch as two days are required for bacteriological diagnosis, is used at all, the serum must be injected on a clinical diagnosis. The variety of serum usually used is that obtained by immunizing animals with both the "Harris-Flexner" and the "Shiga" types of bacilli. The serum was used in only two of our series of cases; neither showed marked improvement from its use. As Holt says, a more extended trial upon more carefully selected cases is necessary before definite statement can be made as to the value of anti-dysenteric serum.

CONCLUSION.

I. Dysentery bacilli were not found in all cases characterized by mucus and bloody stools.

II. The group of cases in which dysentery bacilli were isolated from the stools presented the clinical picture of ileo-colitis.

III. Cases of ileo-colitis in which dysentery bacilli were isolated from the stools did not differ clinically from the cases of ileo-colitis in which these bacilli were not found.—Journal of Infectious Diseases, January 12, 1905.

[1] Studies from Rockefeller Institute for Medical Research, 1904, 2, p. 175.

[2] Jour. Am. Med. Assn., 1903, 41, p. 173.

[3] Ibid., 1904, 12, p. 1121.

[4] Studies from Rockefeller Institute of Medical Research, 1904, 11, p. 173.

[5] Ibid., p. 185.

[6] N. Y. State Jour. of Med., 1904, 4, p. 173.

[7] Archives of Pediatrics, 1903, 20, p. 808.

[8] Studies from Rockefeller Institute for Medical Research, 1904, 2, p. 7.

[9] Loc. cit.

Indications for Removing the Faucial Tonsils.—Adolph O. Pfingst (American Practitioner and News). The question of the advisibility of removing the faucial tonsils is not always an easy one to decide. It is true that even though no benefits may be derived, in some instances, from the removal at least no harm can result, a fact, however, which in no way justifies an indiscriminate removal of tonsils which may perhaps be somewhat enlarged. A careful study of the individual case should be made and a conservative stand taken, the operation being suggested only after we are convinced that the presence of the tonsils is a detriment to the welfare of the patient.

The most obvious indication for the removal of the tonsils is an excessive enlargement or hypertrophy causing encroachment upon the faucial space and interfering with deglutition, respiration or phonation. Even when not excessively large, we are justified in treating tonsils surgically when by their presence they cause pressure upon eustachian tube and secondary interference with the function of hearing. Tonsils subject to recurrent attacks of cryptous inflammation at intervals frequent enough to retard the development of the child are also best dealt with surgically. Another indication for taking out the tonsils is the presence of a chronic superficial pharynigitis or tonsillitis where the tonsillar inflammation seems to keep up the pharyngeal and frequently a laryngeal irritation. This is particularly true in actors, speakers or singers, whose voices give out easily as a result of the chronic affection.

With any of these conditions existing the only factor which could be considered as a contra-indication to tonsillar abscission is a hemorrhagic diathesis or hemophilia on the part of the patient. It is held by some that removal of the tonsils is followed by a slight elevation of the pitch of the voice, and an erroneous idea exists among the laity that the voice is forever ruined by taking out the tonsils. Granting that the pitch is occasionally slightly raised after the operation, this could be a consideration only with the alto or bass singers, while the tenor and soprano could only look with favor upon something that would elevate the pitch of their voices.

After the removal of the tonsils has been decided on, the question to be considered is whether the so-called tonsillectomy, the radical removal of the tonsillar tissue, is necessary, or whether the removal of a portion of it (tonsillotomy) will suffice. Tonsillectomy is the modern surgical operation of the throat, and is being largely practiced in this country. It is employed principally in cases of recurrent tonsillar or peritonsillar inflammation where, to prevent recurrence, it is advisable to remove as nearly as possible all of the adenoid tissue between the faucial pillars. This radical measure is also recommended in cases where the cervical lymphatic glands are enlarged with the hope of preventing other infection, or with a view of preventing recurrent cervical adenitis. To remove the adenoid tissue between the pillars of the fauces, the so-called submerged portion, curved scissors, tonsillar punches, curette, electro-cautery, and various other devices, have been employed.

The more common operation, that of abscising the protruding portion, is best performed by means of a tonsillotome. There are many instruments of this kind on the market, although the instrument of Mathieu has met with most favor, and is undoubtedly the most serviceable. It has the advantage of having the long diameter of the guillotine vertically when in position, and its narrow frame takes up but little room in the throat. If the object of the surgical procedure is merely to increase the size of the faucial space, and thereby aid in deglutition, respiration and phonation, a tonsillotomy with the tonsillotome is all that is required. The hot and the cold snare, or forceps and bistoury, have been used to remove the protruding portion of the tonsils, though much less frequently than the guillotine. The latter has the advantage, especially in children, of being easily and rapidly applied, and of causing less fear to the patient than an exposed knife. It has the advantage over the cold and electric snares that, with it the operation is less painful, and more rapid of execution. The instrument can be used as a tongue depressor and can rapidly be slipped over the tonsil while the child is retching, and the organ removed almost before the patient is aware that anything is being done.

With beginners, probably the most frequent cause of failure to remove as much of the mass as desired is a failure to get the under portion of the ring of the instrument well below the tonsil before applying the upper portion. The lower end of the tonsil is often pendulent, and when this overhanging portion is well hooked into the ring of the instrument the rest of the mass easily slips in by making slight pressure upon the instrument. Another common cause of failure to do a good tonsillotomy is that the adhesions of the faucial pillars to the tonsils are overlooked. This condition is quite common in subjects who have had frequent recurrent attacks of tonsillar inflammation. The pillars should be well separated with a blunt hook or a bent knife before using the guillotine.

In adults or manageable children the operation of abscission of the tonsils can be done without an anesthetic with the patient in the sitting position and with reflected light. In unmanageable children, I used nitrous oxide gas, preferring this to chloroform or ether, as it allows the operator to keep the patient in the upright or natural position. I have used chloroform for the performance of this operation, but my chief objection to it is that the work has to be done in the recumbent position, and that the throat fills up with blood as soon as the first tonsil is abscised, so that in the removal of the second one the instrument has to be guided by the sense of touch rather than sight. I frequently have the child held by an assistant, and with the mouth held open by means of a gag, remove the masses without an anesthetic, as I believe that the operation is not very painful. In such cases the assistant must be well instructed before beginning the operation. With the child on the left knee the right leg of the assistant is crossed over the left, the legs of the child being held firmly between the two. The right hand of the assistant is passed across the child's chest to grasp the left arm, which, at the same time, pinions the right arm to the body of the child. The head is held with the left hand, which can also keep the gag in position. It has been my custom to depress the tongue with a tongue-depressor in the left hand, then to apply the tonsillotome; at the same time making pressure on the side of the neck with the left hand, from which the tongue-depressor has in the meanwhile been dropped. This external pressure makes more of the tonsil engage in the instrument, and consequently allows you to get the tonsil out closer to its base. I rapidly reverse the instrument for the second tonsil, usually without giving the patient opportunity to expectorate. As I find the left tonsil somewhat more difficult to get at than the other, I always remove the left one first.

The dangers of the tonsillotomy are very slight, although alarming and sometimes fatal hemorrhage may follow the operation. As adults are more apt to bleed than children, I believe that we should not remove both tonsils at one sitting in the adult. Bearing upon this, I quote from Bosworth, who says, "I never undertake the operation in adults without apprehension, and without being prepared for emergencies." The bleeding after a tonsillar operation may be profuse, occurring immediately after the operation, and causing the patient to retch and cough and usually to become very much frightened. Children, during such a hemorrhage, frequently swallow considerable of the blood, which may subsequently be vomited. Hemorrhage may also be of an oozing nature—parenchymatous. This form of hemorrhage usually begins several hours after the operation, or even after one or two days. Fatal cases of post-operative hemorrhage are said to be extremely rare, especially in children. Personally, I have had no fatality, but in one case the bleeding perisisted rather profusely—long enough to become alarming. This was in a rather full-blooded girl. I might, incidentally, say that she was menstruating at the time, and as I have seen persistent tonsillar hemorrhage after operation upon another occasion in a girl who was menstruating, the possibility of a connection between the two naturally suggests itself.

The most common causes of tonsillar hemorrhage are (1) a hemorrhage diathesis (hemophilia), or other diseased conditions of the blood in which the power of coagulation is below par; (2) a fibrous condition of the tonsils which is seen as a result of frequent inflammation of the tonsil and which prevents contraction of the arterioles, and (3) abnormalities in the distribution of the blood vessels of the tonsils.

In deciding upon the management of alarming hemorrhage of the tonsils it is important, if possible, to inspect the bleeding surface with the view of determining whether the hemorrhage is taking place from a single vessel or whether there is a general oozing from the cut surface. In the former, an attempt should be made to grasp the bleeding vessel with a hemostat and arrest the hemorrhage by torsion. Failing in this, direct mechanical pressure should be resorted to, either with the finger or by means of special tonsillar hemostat. As a last resort, ligation of the common carotid has been recommended. Styptics, such as the iron salts, tannic or gallic acid, adrenalin, or hot and cold water, are of little or no use in this kind of hemorrhage. They may be of some service in cases of incontrollable parenchymatous bleeding, but even in these it may become necessary finally to resort to mechanical pressure or cauterization of the bleeding surface to arrest the flow of blood.

In excitable individuals, I believe that small doses of morphia are indicated to quiet the patient. It is said that nearly all cases cease bleeding spontaneously when the patient, becoming weakened by the loss of blood, enters into a state of syncope.

Pain, after a tonsillar operation, is very slight in children, and usually also in adults, unless the pillars of the fauces have been wounded during the operation. An exudation forms in several days, covering the cut surface and furnishes a protection to the underlying structures. No especial after treatment is called for.

Malignant Endocarditis Followed by Convalescence.—G. NEWTON PITT, M.D. (Lancet, Nov. 12, p. 1349).

Case I.—A boy, aged 13, developed chorea on May 13, 1903. A week later an apical bruit was detected, and later there was albumin in the urine, while headache and vomiting developed. An extensor plantar reflex on the right side was then noticed. The bruit became louder, rigors developed, and a large amount of albumin was found in the urine. Six days after the extensor plantar reflex was noticed there was right hemiplegia with complete aphasia and incontinence of urine. The boy became extremely drowsy and much emaciated. The general condition during June and July deteriorated, so that death seemed almost certain. He was extremely anemic, but improved rapidly when injections of anti-streptococcic serum were given on alternate days for six weeks. The boy recovered in the most remarkable manner. Speech returned with power in the right side, and he gradually regained his strength, being in October the picture of health.

Case II.—A boy, aged 11, was admitted to hospital with a right apical pneumonia, which cleared up in five days. A fortnight later the temperature was slightly raised, and a systolic blowing bruit developed in the left fifth space. It gradually became louder and the temperature oscillated up to 100° F. for a month, when it became normal. Injections of Pané's antipneumococcic serum were given, and he left the hospital in perfect health and remained so when last heard of. Some months later the bruit was still audible.

That cases of malignant endocarditis may run a course of some months is well known, but comparatively few cases are recorded in which the patients regained health. In both these cases the boys enjoy perfect health, although the valves were permanently damaged. The beneficial effects of the antistreptococcic serum were very striking, and recovery was certainly due to its use.

The Cardiac Complications of Diphtheria.—F. W. White, M.D., and H. M. Smith, M.D. (Boston Med. and Surg. Jour., Nov. 12, p. 433) have analyzed 1,000 cases of diphtheria treated in the Boston City Hospital in which the condition of the heart was particularly observed. Their results show a much higher proportion of murmurs (94 per cent.) than has been found by others. The patients were principally children. All the murmurs were systolic except those in a few cases of chronic heart disease. They were loud and sometimes musical. They were usually heard at the apex, frequently transmitted to the axilla, and generally associated with accentuation of the pulmonic second sound. The majority were associated with irregular action of the heart and outlasted the fever. It was therefore concluded that they were not functional. They developed in the first few days of the illness and they lasted several weeks at least. Five of the six patients were examined eight or ten months after leaving hospital. All had murmurs, and two had cardiac enlargement and irregularity with a weak first sound, indicating probably chronic myocarditis. In about 35 per cent. of the cases the heart was irregular at the time of discharge. Pathological researches have shown that such murmurs are due to mitral insufficiency from changes in the heart muscle of its innervation. Endocarditis and pericarditis are very rare complications of diphtheria. Cardiac enlargement was frequently found, contrasting with the observations of Dr. D. B. Lees. The writers also do not confirm his views as to the frequency and importance of acute cardiac dilatation and syncope. In almost all the fatal cases there was gradual cardiac failure.

There were three types of cases. In the first and most serious there were gallop rhythm, vomiting, epigastric pain and tenderness, and the majority were fatal in two or three weeks. The second type lasted weeks or months, with a rapid regular or irregular heart, which gradually became normal. The third type was very rare. Its main feature was a slow pulse at the end of the second or the beginning of the third week. There were three cases of this type, which were all fatal.

Treatment.—Prolonged rest in bed was ordered in all severe cases, but all the patients who had murmurs and a somewhat irregular pulse increased in rate were not kept in bed. Digitalis and alcohol rarely did any good. Strychnia was found to be the best drug, and was given in doses of 1-60 gr. every four hours to a child aged from 5 to 10. In many cases larger doses seemed to be useful.

Relation of the Index of Alkalinity to the Production of Diphtheria Toxin.—A. P. Hitchens, Glenolden, Pa. (Science, March 31, 1905). A study of the reaction of bouillon before and after sterilization shows that in media containing carbohydrate the rise in acidity after sterilization varies according to the temperature of the sterilizer. This is most important in the production of diphtheria toxin. Bouillon prepared according to the method of Smith, and sterilized in the autoclave, showed after sterilization varying indices of alkalinity. The reaction after sterilization of sugar-free bouillon is very uniform. And as the reaction of bouillon for the production of diphtheria toxin must be very exact, it is advantageous to add the dextrose after sterilization. The meat juice is neutralized to litmus, planted with the colon bacillus and incubated over night to destroy the muscle sugar. The bouillon is made from this in the ordinary way, two per cent. of Witte's peptone being added. It is dispensed into Fernbach flasks, one liter in each, and sterilized in the autoclave. Little attention need be paid to the temperature, it may vary anywhere from 115° to 120°, 0.2 per cent. of dextrose is added after sterilization. The cultures are incubated six days at 35°-36° C. The reaction of the bouillon before sterilization is made +.45, so that after sterilization it may be +.75. Toxin made by this method has been very uniform, rarely being below .005 c.c. for a 250-gram guinea-pig.

The Viability of B. Dysenterioe Shiga.—W. D. Frost and R. Whitman, University of Wisconsin in **Science**, March 31, 1905:—Four strains of this organism were tested. One was the Shiga type. The others belonged to the Flexner-Harris type. Of these one was the Harris culture and the others were from Duval and Bassett's series of summer diarrhoea cases. The viability was tested by drying the organisms on articles of merchandise, dried food substances and in sterile distilled water and milk, under various conditions. A summary of the conclusions reached follows: the B. dysenterioe when dried on articles of merchandise, as paper, cloth and wood dries rapidly in from four to nine days at the temperature of 17-20° C. On dried food substances, as bread, rice and albumin balls, this germ may live for days. In some cases it is able to live over a month. In sterile water the life of the germ is very short, rarely maintaining itself more than a week. In sterile milk the germ can live until the medium is dried up. The different strains vary in their viability under given conditions, the Shiga type culture being distinctly more frail than cultures of the Flexner-Harris type, the effect of temperature in modifying the viability of the germ being important. At a temperature of 38° C. it will live from only one half to one fourth of the time that it will live at a temperature of 17-20° C.

Treatment of Gastro-enteritis with Buttermilk.—During a severe epidemic of gastro-enteritis and of cholera-infantum in the north of France, buttermilk was largely employed as a medicament. The conclusions which have been drawn by Dr. Floquet from the results of his experiences are reported by E. Decherf (Arch. de Med. des. Enfants, January, 1905) as follows: Buttermilk is generally well taken by infants, who prefer it to sweetened boiled water. Its use was followed by good results, while in parallel cases, treated by other means, no improvement was observed, while acting in these cases as a specific, buttermilk is also a food and causes an increase in weight. It is indicated in both chronic and acute cases. It produces excellent results in rickets; it combats the intestinal fermentations which give rise to chronic auto-infection. Some practitioners have administered the buttermilk raw, but the majority who have used it prefer to give it boiled. The following is the method of preparing the buttermilk: One tablespoonful of farina to a liter of buttermilk, which is then slowly boiled in an enamelled or porcelain vessel, at the same time that it is constantly stirred. The mixture is kept boiling for several minutes, at the end of which 75 grams of sugar are added. It is then ready to be fed to the infant, either in the bottle or with a spoon or cup. In cases of acute or chronic gastro-enteritis, it is given in the same doses as milk, every three hours. In the beginning it is best to give it in fractional doses of a tablespoonful every fifteen minutes. Although during the first few days the child may vomit after taking the buttermilk, the stomach soon gets used to its acid food. In children over a year old, sometimes large doses are necessary. The good effects of buttermilk are to be attributed to the large amount of lactic acid present, which counteracts intestinal fermentation. The small amount of fat contained, and the fine division of the casein, thanks to churning, render the preparation very digestible.

Associative Action of Bacteria on the Souring of Milk.—C. E. Marshall, Michigan Agricultural College (Science, March 31, 1905. The author, working with cultures of associated bacteria, consisting of B. acidi lactici, and a bacillus obtained from milk and not yet described, possessing marked proteolytic action in its growth upon milk, and producing alkaline reaction, decidedly marked in old cultures, has been able to demonstrate that loppering is hastened by the presence of this proteolytic germ over that of the lactic acid germ, by as many as ninety-six hours at times, temperature 20° C.; that the acidity rises high above that of the lactic germ; that these changes may be noted by the naked eye appearances of the cultures; and, further, that the lactic acid germ develops much more rapidly when associated with these proteolytic germs than when existing in pure cultures. He has also found that the products produced by the proteolytic germ are stable and that they may exert the same influence as the presence of the living germ. Analyses of cultures at various ages indicate that the products influencing the growth of the lactic acid germ are either amido or ammonia compounds. Synthetic cultural media have been attempted, but without satisfactory results so far.

It may also be said that peculiar curdling effects have been obtained with fresh milk from the cow and of various ages thereafter. This may account for certain peculiar cultural results secured in cultivating germs in various samples of milk.

A Case of Noma Cured by Means of Red Rays.—Another triumph of phototheraphy is recorded in the successful treatment of that dread malady, cancrum iris, by W. O. Motshan (Arch. f. Kinderheilk., Vol. 40, Nos 4 to 6). The patient was a nine-year-old boy, who after having passed successively through scarlatina, varicella and measles, developed noma of one cheek, which went on to perforation. Immediately upon the admission of the case to the hospital, the local use of red rays by means of a 16-candle power incandescent lamp with a red globe, was resorted to. The wound alone was exposed to the rays. The results of this treatment were soon apparent. On the third day pain disappeared. Seven days later the anterior half of the wound was filled with granulations. The necrotic areas gradually diminished. Two months later the patient was presented before the Pediatric Society of St. Petersburg, entirely cured.

Researches in Dementia Praecox.—A. D. Ormea and F. Maggiotto (Gazz. deg. Osped., January 22, 1905) report the following observations on the urine of cases of dementia praecox. They believe a definite relation may be established between the limination of methylene blue and the clinical symptoms of depression and excitement. They arrive at the following conclusions: (1) In dementia praecox there is a special and characteristic alteration of the process of excretion, which shows (a) by means of the elimination of methylene blue through the kidneys, which begins and reaches its maximum intensity with great delay and is prolonged far beyond the time customary in normal individuals; (b) by the character and composition of the urine, in which the total quantity is diminished and the specific gravity is reduced; with a great reduction of area, uric acid, phosphates, sulphates, nitrogen, and total acidity, with a slight increase of chlorides. (2) The elimination of methylene blue in other psychoret, manic-depressive insanity, hysteria, phrenasthenia, melancholia, of involution and dementia paralytica, is always more rapid than in normal individuals. (3) These types of mental disease do not show the same variation in the urine corresponding to the symptoms of depression and excitement. (4) These observations suggest that dementia praecox is an idiopathic form of disease, quite distinct from other kinds of psychoses, and based on the alteration of the excreted materials, probably produced by the blood vesels in the sexual organs—resulting eventually in a systemic and partial degeneration of the brain. (5) The elimination of methylene blue in this characteristic way shown in dementia praecox can be used to diagnose this disease.

Fresh Cold Air Treatment of Pneumonia in Infants.—W. P. Northrup (Med. Rec., February 18, 1905) reports two cases of pneumonia in infants in which the windows of the sick-room were kept open day and night; both children recovered. He believes it will become more and more the rule to treat pneumonia in this way. Cool, pure air, he says reddens the blood, stimulates the heart, improves digestion, quiets restlessness, and aids in overcoming toxemia. He concludes with the following prescription for killing a baby with pneumonia:

Crib in far corner of room with canopy over it. Steam kettle; gas stove (leaky tubing); room at 80° F. Many gas jets burning. Friends in the room, also the pug dog. Chest tightly enveloped in waistcoat poultice. If child's temperature is 105° F. make a poultice thick, hot, and tight. Blanket the windows, shut the doors. If these do not do it, give coal tar antipyretics and wait.

BOOK REVIEWS

PRACTICAL DIETETICS.—DIET IN HEALTH AND DISEASE. By A. L. BENEDICT, Buffalo, New York, Member American Gastro-Enterological Association, Medical Society State of New York, etc. 12 mo. 400 Pages. Green Buckham, Gilt Side Title and Top. $1.50 Net. Chicago: G. P. Engelhard & Company.

Dr. Benedict has given us in this duodecimo a series of straightforward and simple definitions of the general forms contained in the dietary of diseases. No attempt has been made to give a very exhaustive dissertation but the important outlines of dietetics have been very carefully presented.

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SURGICAL TREATMENT OF BRIGHTS DISEASE. By DR. GEO. M. EDEBOHLS, A.M., M.D., LL.D., Professor of the General Diseases of Women of the Post-Graduate Hospital, New York City. F. F. Lisiecki, publisher, New York.

Dr. Edebolhls has extended his modest little contribution on the Renal Decapsulization into a volume of three hundred and ninety or more pages. It consists principally of a series of reprints of his papers which have appeared from time to time, also notice of results in operations of seventy-two (72) patients with complete history.

He shows that, whereas seven of these patients have died within two weeks following operations, and twenty-two died at periods more or less remote from the operation, forty are known to be living. These seventy-two cases embrace all of his operations for chronic Brights disease up to and through 1903. From his own synopsis, it cannot be said that the results have been striking. Seventeen cases cured—it being doubtful whether any were really cured or not.

At all events, notwithstanding the author's point of view, the results obtained by a number of foreign specialists along the same lines, and the present precedent will do much toward bringing into prominence the form of treatment for the heretofore intractable diseases, and as such are worthy of extended study.

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